the magazine of STANDARDS

standardization procedure for lightning arresters . . . page 4

in two parts—part one

JANUARY 1960

the magazine of STANDARDS

Standardization is dynamic, not static. It means not to stand still, but to move forward together.

Vol. 31 No. 1 JANUARY 1960

Part 1

FEATURES

New Procedures on Lightning Arresters. *By G. F. Lincks* 5

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ASA

OUR COVER: Spectacular effects are created when lightning strikes the George Washington Bridge in New York City. Speedier procedures to keep American Standards for lightning arresters up to date are explained on page 5. *Photo—General Electric.*

Opinions expressed by authors in THE MAGAZINE OF STANDARDS are not necessarily those of the American Standards Association.

notes

• In view of the attention given recently in the U.S. press to problems of international trade, it seems appropriate as the New Year opens to call attention to some experiences and comments of U.S. delegates who have attended international meetings on standards. When they first attend such meetings, representatives from the United States consistently react with surprise and enthusiasm at the potential such work may hold for U.S. industry. Many chief delegates urge, however, that the U.S. be more adequately represented. Although true particularly in the electrical field, this reaction is found also in other work on standards.

Articles in this issue on electronic components (page 11), on rules for approval of electrical equipment used in European countries (page 8), and on test sieves (page 16) all emphasize the importance of international standards meetings to industry in the United States.

• What will the New Year mean to standards? Without moving from our desks we can predict that during 1960 there will be more effort to develop closer working relations between government and industry, work on standards for coding and indexing for computer use, more work on pallets, a new type of speed index for photography, some advance in work on nuclear standards, and many meetings of importance to international work.

The New Year also may bring a reorganization in the American Standards Association to provide a closer working relationship for ASA's company and associate members.

• Please turn to page 371 of the December issue of THE MAGAZINE OF STANDARDS and insert the name of Charles M. Wright, Chrysler Corporation, in the identifying caption above the picture of the Company Member Conference Administrative Committee. Mr Wright, who is one of the new members of the committee, is fourth from the left.

• The Company Member Conference announces its spring meeting will be held May 2-3 in Philadelphia.

This Month's Standards Personality

A. William Meyer

NATIONAL AND INTERNATIONAL standards have both benefitted as a result of the broad-gage activities of A. William Meyer. Mr Meyer is director of patent and engineering investigation of the Brown & Sharpe Manufacturing Company, where he has worked since 1917. His apprenticeship with the company was served in the Drafting Department. He has also worked in the advertising and engineering departments, as assistant director of machine tool design, as director of research, and now in his present capacity.

Mr Meyer has made an impressive record in technical society and association standards work and in work on international standards. Recently he represented the U.S. at a meeting of the International Organization for Standardization's Technical Committee 39, Machine Tools. Impressed with the difficulties he found, he appealed for additional U.S. representation to assure adequate presentation of the U.S. viewpoint, an appeal that promises to bring results.

A Registered Professional Engineer, Mr Meyer is a member of the American Society of Mechanical Engineers, and represents ASME on ASA's Standards Council. He has served as chairman of ASME's Standardization Committee, and as a member of the Board on Codes and Standards.

A member of Sectional Committee B4, Allowances and Tolerances for Cylindrical Fits, he works on the B4 technical subcommittee on grades of tolerances and allowances. A member of Sectional Committee B5, Small Tools and Machine Tool Elements, he has been chairman of several B5 technical committees and member of others.

Mr Meyer also represents the National Metal Trades Association on the sectional committee on abrasive wheels.

In government work, Mr Meyer has been a member of technical subcommittees and the editorial committee of the American Gage Design Committee and a simplified practice committee on grinding wheels.

In addition to ISO responsibilities as a member of the Advisory Committee for ISO/TC 29, Small Tools, and as U.S. representative at meetings of ISO/TC 39, Machine Tools, and ISO/TC 3, Limits and Fits, he has worked in the ABC Unification Conferences, particularly on drafting practice and cylindrical fits.

Known as author of a number of papers that have been published in technical magazines in the U.S. and in England, Mr Meyer has just finished work on new material on tapers, spindle noses, and arbors for the up-to-date edition of the Tool Engineers Handbook, published late in 1959.

In his personal life, Mr Meyer has been a member of the Planning Board in his home town, and has been interested in skiing and sailing. His current interest is photography. He also assists his wife in hand weaving, hand painting, and gardening.

Courtesy General Electric Company

by G. F. LINCKS

NEW PROCEDURES O

MR LINCKS is with the General Electric Company, Pittsfield, Massachusetts. He is a Fellow of the American Institute of Electrical Engineers and represents both AIEE and the National Electrical Manufacturers Association on ASA Committee C62, Lightning Arresters.

This paper, presented at the Fall General Meeting of the AIEE, held at Chicago October 11-16, presents a method of keeping an American Standard up to date that may be of interest to other groups working on American Standards. Although the specific problem discussed by Mr Lincks concerns the electrical field, and the procedures described are peculiar to the organizations in that field, the methods decided upon by Committee C62 and the sponsoring organizations may offer ideas that can be adapted by others.

"A change in procedure in which all interested parties have an equal opportunity to propose changes to ASA C62," explains ELECTRICAL ENGINEERING, *which published the paper in its December 1959 issue with the statement, "A special article recommended by the AIEE Standards Committee."*

Comments H. R. Stewart, chairman of ASA Sectional Committee C62: "This paper, while written by Mr Lincks as an individual member of ASA C62, has the formal endorsement of the full membership of the sectional committee."

TO BE EFFECTIVE, standards must have a wide, voluntary acceptance by the whole industry involved with the particular product. To do this, standards must represent the best thinking of the whole industry on the system needs and practices and on design advancements.

Standards must be current at all times in an industry developing as rapidly as is the electrical industry.

In most cases, present practices in preparing standards involve duplication or triplication of effort and, thus, become prohibitive in cost with the danger of limiting participation. Any attempt to curtail costs except by improving the efficiency of the operation can be disastrous to the universal acceptance of standards.

The channeling of areas of responsibility for standardization to specific organizations under existing

standardization practices, such as "tests" to the American Institute of Electrical Engineers and "steps of rating" and "dimensions" to the Edison Electric Institute and the National Electrical Manufacturers Association, may not result in securing universal acceptance of the final American Standard. Naturally, all interested parties wish to participate in the over-all problems. Also, the best thinking of all should be used in preparing and maintaining current all parts of the standards. Thus, it is desirable to open the door for full participation of all interested people by suggesting and approving changes in all phases of the standards through the procedures of the American Standards Association.

A glance at the history leading to the recent issuing of American Standard C62.1-1957 for lightning arresters[1,2] will indicate that the procedure bore a close resemblance to present standardizing practices for most products in the electrical industry. The standard is in a field involving relatively rapidly changing system needs and practices, and design advancements to meet these changes. Prior to the issuance of the new standard, American Standard C62.1-1954 for lightning arresters was hopelessly out of date. AIEE Standard 28, "Report on Lightning Arresters for Alternating-Current Power Circuits," had been revised in 1950 and again in 1956. Each of these revisions had required two to three years of periodic meetings to discuss new and revised drafts and to perfect the exact wording of each definition and clause. This cost many thousands of dollars for travel expenses and engineering time.

LIGHTNING ARRESTERS

NEMA standards for lightning arresters were kept up to date by semiannual meetings costing a great deal of time, money, and effort to perfect wording satisfactory to the manufacturers. The current AIEE and NEMA standards did not agree in certain overlapping areas. This was particularly true as to definitions. Also, they varied from the new American Standard definitions developed by ASA Sectional Committee C42. These differences confused users not familiar with the preparation of the standard, thus defeating voluntary acceptance.

ASA Sectional Committee C62 on Lightning Arresters had to spend three years, with periodic meetings for discussion of numerous drafts, in order to compromise the differences in these highly perfected AIEE and NEMA standards. The work of the sectional committee in compromising these differences between the two standards could not avoid detracting from the sense of achievement on the part of people who had spent so much time and conscientious effort to obtain perfection. This is not conducive to voluntary acceptance of the standards.

The AIEE Standards Committee recognized the problem of wasteful duplication of effort in perfecting standards and then turning them over to an ASA committee in its statement in the AIEE Standards Manual (fifth edition) under "AIEE Standardization Activities," page 17:

> "2. When . . . an undertaking is proposed with the expectation that it will ultimately be submitted to ASA for approval as 'American Standard' it would be best to submit the proposed project to the Electrical Standards Board at an early stage with the request that the project be approved to go forward under the sectional committee procedure. . . . Of course, the Institute can always proceed with the development of a standard on its own account but when finished, if it is then decided to ask for ASA approval, in all probability much of the work would have to be done over again in a sectional committee. Obviously, therefore, the work should be done in the first place under a set-up that will insure final approval."

CHANGE IN APPROACH

With this background, ASA Sectional Committee C62 has faced up to the urgent need for improving the efficiency of its product standardization. It recognized that if nothing were done, history would repeat itself. The current American Standard which it had just completed would be the "current" or "working" standard for only a short time. Gradually, it would become obsolete because of technical advancements in the industry both in systems and design. After several years, the AIEE Technical Committee and NEMA would start all over again to rewrite and perfect two separate standards that would be confusing to the users.

With this in mind, ASA Sectional Committee C62 decided that the American Standard should be made the working standard of the industry by keeping it continually up to date. In order to do this, NEMA and the AIEE Standards Committee approved certain changes in their respective standardization practices for lightning arresters. On NEMA's part, it will refer all its proposals for new lightning arrester standards directly to ASA C62 without publication in the NEMA standards, on the understanding that the new proposal, if found acceptable, will be reflected in the American Standards in a reasonable length of time. Furthermore, existing NEMA standards after inclusion in C62.1 will be deleted from NEMA standards

[1] New Lightning Arrester Standard, H. R. Armstrong, F. M. Defendorf, A. M. Opsahl. AIEE *Transactions*, pt III, (*Power Apparatus and Systems*), vol 75, Oct 1956, pp 960-64.
[2] When Lightning Strikes, H. R. Stewart. *The Magazine of Standards*, Aug 1957, p 236-38.

Courtesy General Electric Company

publications so that there will be no duplicate sections in simultaneous existence. NEMA will continue to publish a standard for lightning arresters containing only:

1. Standards for future design; that is, advance standards toward which the manufacturers are designing their equipment. When current designs can be certified as meeting the new standards, the change will be proposed to ASA. ASA has no equivalent standard.

2. Authorized engineering information, generally on application. It is anticipated that some time in the future the American Standards will include most of this information in a guide.

On AIEE's part, its new procedure will be to have the Protective Devices Committee, on instigation by the Lightning Protective Devices Subcommittee, recommend changes directly to ASA Sectional Committee C62. The further part which the AIEE will play in the chain of approvals is explained below under "New Step-by-Step Procedure." The AIEE Standards Committee also directed attention to a portion of the section in the AIEE Standards Manual (fifth edition) "AIEE Standardization Activities," on page 17:

> "3. Regardless of which organization sponsors a standard, the Institute, through its (technical) sessions and conferences, provides a forum for the presentation of reports, papers, and discussions applying basic information for standards projects in the electrical field."

To carry the major burden of processing revision proposals from these and all other interested sources, groups, or individuals, ASA Sectional Committee C62 appointed "a Working Group on Continuous Revision of American Standards of Lightning Arresters, C62.1", with the following scope: (1) to review proposals in ASA C62.1 and prepare them in letter ballot form for submission to parent Committee C62; (2) to serve to coordinate at the working group level the efforts of technical groups contributing to this standard; (3) to serve, on instruction from Sectional Committee C62, to implement activity on desirable changes in the standard through existing or new groups; (4) to make editorial changes in the standards or proposals as considered necessary or desirable. (While emphasis has been placed on the roles of AIEE and NEMA in ASA C62 activity, it should be remembered that there are several other delegations to this sectional committee such as EEI, Communications, Railroads, etc.)

NEW STEP-BY-STEP PROCEDURE

THE STEP-BY-STEP PROCEDURE by which a revision will advance from proposal form to readiness for publication in a revised edition of the standard will be as follows and as illustrated in the flow chart, Fig. 1:

1. Proposals for revisions, whether originating with AIEE, EEI, NEMA, or other industry groups or individuals, should be sent to the chairman of ASA C62.

2. Upon receipt of this information, the C62 chairman will take one of the following courses of action:

   a. Where proposals are received from established groups and are known to represent the desires of industry, they will be forwarded to the chairman of the Working Group on Continuous Revision of the American Standard on Lightning Arresters, C62.1, for further processing, with carbon copies marked for the information of all delegations and for the chairman of the AIEE Protective Devices Committee.

   b. Where the proposals are received from small groups or individuals, and where it cannot be ascertained that the proposals represent the desires of industry, they will be submitted to the NEMA Lightning Protective Devices Section and the AIEE Protective Devices Committee for evaluation. Results of such evaluation reported back to the C62 chairman will then be submitted by him to the Working Group chairman, with carbon copies as in 2a.

3. If sufficient supporting data accompanies a request for revision, the Working Group will prepare the proposal received in the proper language for C62.1 and will coordinate all sections of C62.1 which might be affected by the proposal. Where proposed revisions are not accompanied by sufficient supporting data, the Working Group will request such information from AIEE or NEMA, or both.

4. With proposals prepared in a form suitable for inclusion in the standard, they will be submitted to the membership of C62 for comments.

5. Upon receipt of approval or comments from ASA C62 membership, the Working Group will make such

changes in the proposal as necessary and will then resubmit for C62 letter ballot.

a. Action taken by C62 delegation chairmen: (1) NEMA—Submits it to the Lightning Protective Devices Section and the Codes and Standards Committee; (2) EEI—Canvasses EEI delegation; (3) AIEE—Transmits it to the Protective Devices Committee chairman who then submits it to the Protective Devices Committee members for letter ballot or such other type of action as he deems appropriate.

Results of this action are then communicated to the AIEE delegation to C62 for its guidance, and a copy is sent to the AIEE Standards Committee.

b. Other C62 delegates vote individually.

6. Upon approval, the C62 chairman submits to the AIEE Standards Committee and to NEMA, the joint sponsors, the proposed revision of the Lightning Arrester Standard, together with the ballot tally, and full description of any negative votes.

7. After AIEE Standards Committee and NEMA approval, the revised arrester standard is submitted by the joint sponsors to the ASA Electrical Standards Board for final approval as an American Standard.

SUMMARY AND EXPECTED RESULTS

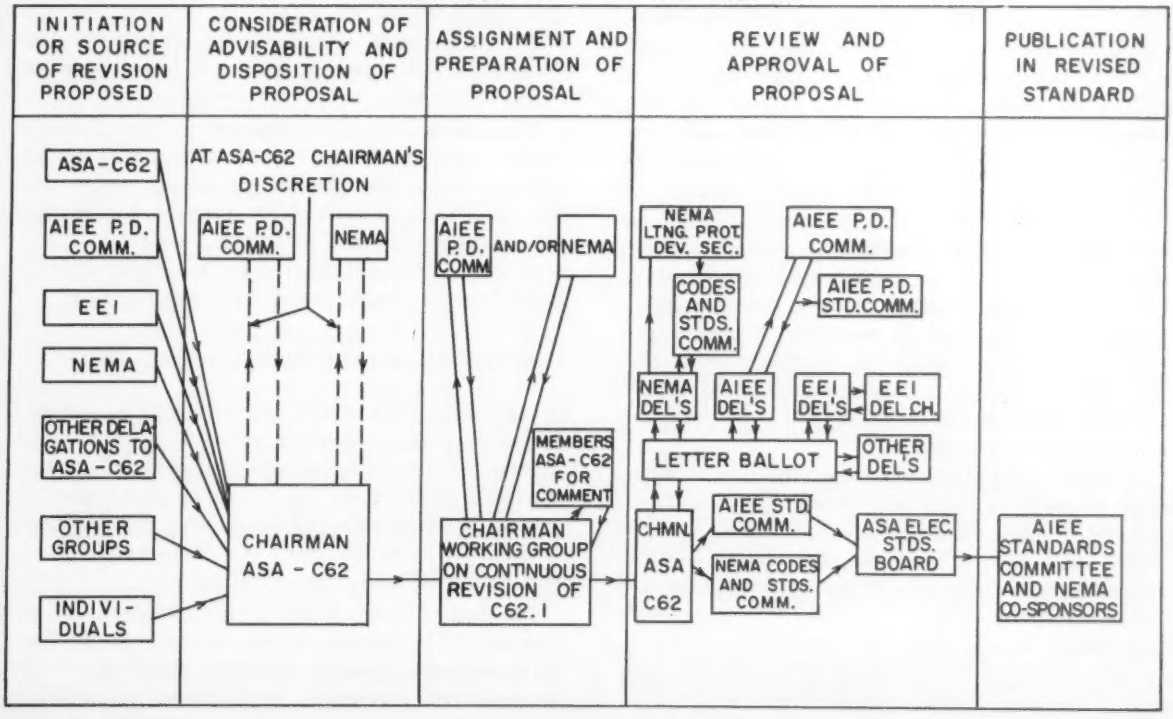
THIS NEW STANDARDIZATION PROCEDURE should provide broader participation than heretofore by all interested organizations, companies and individuals, and thus wider voluntary acceptance. A cursory reading might indicate it gives to few people too much power, with AIEE, NEMA, and others giving up normal functions. Actually, participating organizations in the ASA sectional committee will have increased control over all changes and improvements since they review every proposal before it becomes standard and is published anywhere. Previously, different organizations approved and published standards in an area without any concurrence, and often conflicts resulted. Each organization can draw into its review, and if desired balloting, as broad a representation as it deems advisable. A company or an individual can submit proposals directly. Whenever AIEE, NEMA, or another organization decide a proposal requires further investigation, they can recommend delaying action and either set up a study group, submit papers for discussion in AIEE, or both. Thus, everyone gains, no one loses, and better standards should result.

With this new standardization procedure, there will be one American Standard on Lightning Arresters kept up to date continuously. The need at any time for complete rewriting should be eliminated. It should be much less costly in dollars and in engineering time than in the past.

In order for this new standardization procedure to work successfully, changes in the American Standard must be processed quickly and then published shortly thereafter.

The author wishes to thank H. R. Armstrong, E. Beck, A. M. Salazar, and H. R. Stewart for their valued assistance in the preparation of this article.

Fig. 1: Flow chart showing how the new procedure will operate from initiation of the proposed revision through publication of the revised standard. Abbreviations: P.D.—Protective Devices; Ltng Prot Dev Sec—Lightning Protection Development Section; Del's—Delegates.



INTERNATIONAL MEETINGS AFFECT U.S. MARKETS

by L. D. PRICE

THE EXPORT MARKET of the U.S. electrical manufacturing industry cannot help but be affected by the safety standards agreed upon by the International Commission on Rules for the Approval of Electrical Equipment (CEE). The Commission has been set up by 15 European countries[1] to fix the safety standards for electric appliances and wiring materials used in these countries.

The United States, of course, is not a member of CEE. However, CEE works closely with the International Electrotechnical Commission, and through the U.S. National Committee of IEC, the U.S. is invited to send an observer to present the U.S. viewpoint at CEE meetings. At the 1959 meeting in Switzerland, the president of CEE commented with pleasure on the fact that a representative was present who could discuss U.S. safety practices. It should be emphasized that U.S. opinions and recommendations should be made known to the CEE at this stage before their recommendations have had an opportunity to become fixed in the form of agreed-upon standards. Also, it was obvious at this meeting that the most effective U.S. representation could be obtained if continuity of representation could be maintained at these meetings.

Subjects under discussion during the 1959 meetings were connectors; plugs, socket-outlets and switches; insulated cables; motor-operated appliances (electric tools); and general requirements. Fifteen member countries were represented by 134 delegates and technical experts.

[1] Austria, Belgium, Czechoslovakia, Denmark, Finland, France West Germany, Hungary, Italy, Netherlands, Norway, Poland, Sweden, Switzerland, United Kingdom.

MR PRICE is manager, Engineering and Safety Regulations Department, National Electrical Manufacturers Association. He served as observer for the United States at the meeting of the International Commission on Rules for the Approval of Electrical Equipment (CEE), Lugano, Switzerland, October 5-15, 1959.

It was evident from the discussions that there is an increasing awareness of the need for performance-type specifications rather than the detailed construction type. However, progress in this direction is slow because in many cases it has been found easier to check construction detail than performance.

Also, in general, the influence of the Common Market was evident in the need expressed at the meeting for uniformity of regulations among the the countries participating. It appears evident that progress is being made toward this objective.

In general, the following were the important highlights from the viewpoint of American industry.

MAINTAINING AN OPEN MARKET FOR U.S. PRODUCTS

A suggested provision that metric threads be required for all screwed connectors would have excluded a great many U.S. electrical products from the European market. I objected to the provision. A clarification was made and recorded in the minutes that American or ABC screw threads would be considered "equivalent to metric" under the specification.

In another case related to "construction vs performance," I objected to the severity of the "hot mandrel test" applied to insulating materials used in motor-driven appliances, particularly tools. While

there was some support to the objection, and it was recognized that the need for certain mechanical characteristics of materials might outweigh resistance to combustion, the test was retained. However, it was agreed to investigate the problem more thoroughly with the possibility of future revision. At present, ceramic insulating materials are about the only ones that will withstand this test. This is of particular importance to U.S. manufacturers selling in the European market.

IDENTIFICATION OF THE GROUNDING CONDUCTOR IN CORDS AND CABLES

A considerable portion of the insulated conductor meetings and of the plenary meeting was devoted to discussion of the use of a standard green and yellow identification of the grounding conductor of cords and cables. Such identification has been accepted by the Insulated Conductor Technical Committee. In addition, the colors red, yellow, and green may not be used as phase conductors because of possible confusion in the countries where those colors have been used to identify the grounding conductor. It was also agreed that in those cases where no grounding conductor is required, the green-yellow conductor could be used as a live or phase conductor.

While there was vigorous objection to this last provision, the objection was not sustained.

All countries agreed that within a matter of months, or at most about two years, they would be in a position to accept and enforce the standard. All could accept it as an alternate to their national standard immediately. Some countries stated that they could accept the green-yellow as an alternate to their national standards but would retain their national standards for use within their countries.

The CEE standard, when approved, will be submitted to the IEC for consideration as an international standard.

I explained that, from the information I had, the U.S. would probably object vigorously in the IEC to (1) a standard green-yellow identification of a grounding conductor; (2) prohibition of easily identified colors for phase identification in favor of those which may be easily confused, i.e., brown and black, grey and white; (3) use of the identified grounding conductor for purposes other than grounding.

I also suggested that this is not entirely a wire and cable problem, but one involving many segments of the industry, particularly those responsible for the writing of electrical safety codes. I also suggested that an alternate standard—solid green—be recognized by CEE.

It was stated that while IEC might recognize an alternate standard, CEE would not.

It was recognized that code-writing bodies are very much concerned with the proposal, and that code-making bodies in several countries have not been consulted. The secretariat will therefore prepare a document outlining the pros and cons concerning the problem and will present the proposal for formal consideration by the national committees of the member countries. Hope was expressed that the proposal could be acted on favorably at the fall 1960 meeting.

To complicate the matter further, no decision has been reached, nor formal proposals made, concerning the identification of the grounding conductor on wired installations. This could be a different identification from that used in cords and cables.

The matter of identification of the *grounded* conductor or neutral has not been discussed, but preference seems to be for blue.

GROUNDING OF PORTABLE TOOLS

The Netherlands reported that new regulations are being published which will require generally that all motor-operated tools shall be of Class II (double insulation or reinforced insulation) or Class III (operated at low voltage through an insulating transformer). Grounded tools may be used in some cases if (1) the tool is grounded by a visible conductor, or (2) is isolated from the supply by a transformer.

These regulations were brought about by a survey of accidents from the use of portable tools, which showed that about one-third of the accidents result from the use of a grounding conductor in the supply cord. The accidents are caused by misuse of the grounding conductor, improper connections made by users, and interruption of the ground due to mechanical failure of the grounding conductor.

This occasioned considerable discussion which revealed no uniformity of thinking, or of grounding rules enforced in the member countries. The result was a decision to add a warning note to the draft of the standard for portable tools reading: "In some countries, hand-held tools of Class I are not permitted."

PORTABLE TOOL SPECIFICATION

A draft of a specification on portable tools was completed at Lugano and will be presented to the plenary meeting at Budapest in the spring of 1960 for approval.

The draft does not contain requirements for some of the portable tools that are coming into more general use. Specifications for those tools will be considered for a future revision.

Through the Electric Tool Manufacturers Association in the U.S. and the U.S. observers, the draft specification is now reasonably acceptable to U.S. manufacturers.

REGISTRATION OF TRADE MARKS

A problem involving the registration of trade marks that are similar to or may be confused with the symbols adopted by CEE as design designations was

discussed at length. The problem came about because of the possible confusion of the Square D trade mark with the CEE square-within-a-square designation of double insulation.

All countries have checked or will check with their trade mark registration authorities and, in the future, trade marks similar to, or which could be easily confused with, CEE marking designations will not be accepted.

Following some personal discussions with CEE members most concerned with the possibility of confusion between the Square D trade mark and the CEE designation of double insulation, it was agreed that consideration will be given to the adoption by CEE of some other designation for double insulation some time in the future. At the present time, it may be considered that no direct controversy exists and that no issue will be raised by CEE protesting the Square D trade mark.

USE OF TWO-COIL TRANSFORMERS FOR OPERATION OF APPLIANCES AT 110 VOLTS

The practice of Americans who move to European countries and take with them auto transformers to obtain 110 volts from the 220-utilization voltages available in European countries is vigorously protested. Such use may subject U.S. appliances to 220 volts to ground and many failures and accidents have been reported. Two-coil isolating transformers will be required, and I have been requested to inform the manufacturers of appliances, and the suppliers of small step-down transformers for use with appliances, of this requirement. In many cases, the insulation of American-built appliances has failed in use with 220 volts imposed from live parts to ground. This requirement should also be made known to the International Association of Electrical Inspectors, as electrical inspectors are frequently consulted about the use of American appliances overseas.

This is also a point which we in the USA should consider in conjunction with the possible application of higher voltages to domestic services.

HIGHER UTILIZATION VOLTAGES IN THE UNITED STATES

Many questions were asked about the status of the use of higher utilization voltages for domestic customers. Some Europeans were apparently misinformed that we were about to embark on a major changeover. I attempted to report factually on the present status and on the existing limitations on the use of higher feeder and service voltages for certain commercial and industrial applications. I reported further that higher utilization voltages for domestic applications were still under study and that no decisions had been reached.

In general, the feeling expressed was that we may be wise to consider the question very carefully before making a decision. There are apparently a number of safety experts in Europe who believe that a maximum voltage of 120 to ground is desirable.

The next CEE meeting will be held in Budapest, May 17-27, 1960. Technical committees on conduit, connectors, plugs and socket outlets, reciprocal licensing board, and general requirements are scheduled to meet. Other meetings are tentatively scheduled for the autumn of 1960 in the United Kingdom, spring of 1961 in Norway, and autumn of 1961 in Czechoslovakia.

INTERNATIONAL RECOMMENDATIONS

Issued by

the International Organization for Standardization and the International Electrotechnical Commission

Available from the American Standards Association

86 Recommendations issued by IEC cover internationally approved agreements in the field of electrical engineering.

72 Recommendations issued by ISO cover internationally approved agreements on tools, ball bearings, machinery, photographic equipment and supplies, shipbuilding details, library and publishing practices, basic quantities and units, reference temperature for testing, and others.

Lists of IEC and ISO Recommendations available without charge.

Write to

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International Electronic Standards Under Way

ABOVE: Officers at the plenary meeting of IEC Technical Committee 40: L. Van Rooij, assistant secretary; M. Van Batenberg, secretary; L. Podolsky, chairman; L. Ruppert, general secretary, IEC; C. Stanford, assistant secretary, IEC.
BELOW: Committee chairmen and IEC secretariat discussed reorganization of IEC electronics activities at luncheon meeting. L. Ruppert, IEC general secretary, presided.

by LEON PODOLSKY

THE TECHNICAL WORK accomplished by international committees which met in Ulm, Germany, from September 25 to October 10 made those meetings particularly notable. International Electrotechnical Commission's Technical Committee 40 and its subcommittees, covering electronic components, and Technical Committee 12 and its subcommittees, covering radio communication apparatus and safety, had an attendance of 246 delegates from 20 nations. These delegates at Ulm completed nine international standards, which are now to be recommended for printing. They also completed technical work on 18 additional standards, which are to be published under the Six Months' Rule for trial use, and on five additional documents, which are now to be circulated under the Two Months' Rule permitting only editorial corrections. The speed and pace with which this large number of international standards are being developed must be counted as the outstanding highlight of any such technical meeting.

A significant feature of the technical meetings was the competence of the technical delegations which were present from the so-called "Iron Curtain" countries. The USSR, Hungary, Poland, and Czechoslovakia all provided technical delegates who spoke English and participated heavily in the technical discussions of the various committee meetings. The delegation from the USSR to the TC 40 subcommittees was extremely competent and cooperative. The technical proposals which it put forward were of a high order and were well presented and defended both by document and by the delegates. The friendliness, social participation, and general approach of the delegates from the Iron Curtain countries have markedly improved in the past two years, and this was most readily evident at Ulm.

The U.S. delegation of 24 men was in many ways the best prepared and most effective U.S. delegation which has ever taken part in the IEC meetings of TC 40 and TC 12. One of the principal reasons is that 13 of the 24 delegates had participated in IEC activities in one or more previous years and were able to provide continuity to the work based upon the technical documents and position papers developed by U.S. engineering committees. Eleven of the delegates at Ulm were new to this work, although many of them had participated in U.S. engineering committee review and preparation of the technical subject matter covered by the committees. A complete listing of the U.S. delegation, with their company affiliation and technical committee assignments, is shown on page 13.

Of the 24 delegates, 18 were provided by their companies or organizations, and six by EIA Parts, Technical Products, and International Departments.

MR PODOLSKY is technical assistant to the Sprague Electric Company and is a principal of the consulting firm of Electronic Consultants, Pittsfield, Mass. He is chairman of the International Standards Committee, Electronic Industries Association, and chairman of IEC Technical Committee 40, Electronic Components. He is technical advisor to the U.S. National Committee of the International Electrotechnical Commission in connection with IEC/TC 40, and was leader of the 24-man delegation to meetings of TC 40 and TC 12 at Ulm, Germany, September 25-October 10, 1959.

U.S. delegates at meeting of IEC/TC 40-1—(Seated) B. Diebold; A. Grove; J. Marston; L. Foster. (Standing) L. Podolsky.

U.S. delegates at work at meeting of IEC/TC 40-3—C. Gardner (left); Dr E. A. Gerber, chief delegate (right).

Following the banquet, Dr Vieweg, president of the German National Committee of IEC, thanks Mr Podolsky for his remarks.

Two major policy questions exist as a result of the work of these committees and of the meetings in Ulm. (1) TC 40: The work on electronic components, covered by TC 40 and its subcommittees, has expanded rapidly and need exists for effort in additional fields in future years. This will require additional technical committees, which will make the present organizational structure of TC 40 unwieldy. The Central Office staff presented a proposed reorganization of the electronics activities of IEC to streamline the functions and to group like activities into main technical subcommittees. This proposal is being redrafted for submission to all IEC national committees and the president of IEC will be requested to appoint an advisory committee on electronics to receive the national comments on this new proposal and to take formal action on implementing it at a proposed meeting to be held in Paris, January 1960. The U.S. has agreed to participate in this activity.

(2) TC 12: Technical Committee 12 and its subcommittees are involved to a considerable degree in the subjects of measurement, safety requirements, etc, on radio and communications apparatus of all kinds. In the U.S., standardization on measurements of the type covered by these committees has been handled by Sectional Committee C16 of the American Standards Association. The committee is sponsored by the Institute of Radio Engineers.

The U.S. electrical industry has intense interest in the work done by these IEC committees, since they can easily legislate U.S.-made electronic apparatus out of world markets if they do not include U.S. standards provisions.

The nature of the work and the speed with which it is progressing made it very clear to the U.S. observers that unless we participate more heavily in a direct and effective way, as we have done in other fields, it will be only a few years before these international standards will have passed us by and we will have been engineered out of world markets in electronic apparatus. IEC standards have the force of law in many of the IEC countries, particularly those which do not have voluntary standards organizations such as are in existence in the U.S. Consequently, the development of standards is by personnel appointed by these governments, and the standards become mandatory upon acceptance in those countries. This situation has been called to the attention of all interested organizations by the International Standards Committee of EIA, and intensive effort is being expended to get more complete and adequate U.S. participation in this work.

A vote of thanks is due to all of the U.S. delegates for their intensive preparation and attendance at the meetings, and to their companies and organizations who provided their time and expenses.

The surroundings and background of Ulm provided an excellent atmosphere for the technical achieve-

ments of the IEC committees. The arrangements and meeting rooms provided by the German National Committee and the social affairs were all excellent, and the hospitality extended to the delegates could not have been surpassed.

Ulm is an historic town. References mention it as early as 854 A.D. Its most outstanding features is the great minster, or cathedral, with the world's tallest spire of 492 feet. This cathedral was begun in 1377 and completed in 1488. Its construction justifies its classification as one of the architectural wonders of Europe. None of the IEC delegates can possibly forget the minster, for its bells tolled from 40 to 100 times at 6:00 A.M. each morning and at various counts on the quarter hour and hour throughout the day. Nearly 80 percent destroyed in World War II, Ulm has been rebuilt along modern functional lines but preserving the charm and picturesque atmosphere of its antiquities. Being at the junction of six railroads and on the great Autobahn, it is a popular stopping point for tourists from all over Europe.

The social program provided by the German National Committee included a pleasant reception in the Rathaus by the Burgomaster of Ulm and was climaxed in a most delightful banquet given in the Bundesbahn Hotel. Dr Vieweg, president of the German National Committee, welcomed the guests, and the leader of the U.S. delegation made the response on behalf of the delegates. A reception for the delegates by the Telefunken Company in the Ratskeller provided another enjoyable evening.

A program of technical visits to the German electronics industry plants in Ulm and in the surrounding cities was arranged so that all of the technical delegates would have an opportunity to see portions of the German electronics industry of greatest interest to them. An all-day Sunday bus excursion to visit King Ludwig's castles at Neuschwanstein proved to be a pleasant excursion.

One of the unscheduled events of the meeting at Ulm was a luncheon given by the IEC Central Office with Mr Ruppert, general secretary of IEC, and Mr Stanford of the Central Office staff as hosts to the chairmen of the technical committees and the heads of the national delegations. This luncheon was constituted as an ad hoc meeting to discuss the structure and organization of TC 12 and TC 40 and the general electronics activities of IEC.

U.S. Delegation to IEC Meetings at Ulm

TC 40: Components for Electronic Equipment – Leon Podolsky, (chairman TC 40); A. M. Okun (chief delegate), chief, Avionics Section, Installation Design Dept, Aircraft Division, Bell Aircraft Corp; J. L. Dalke, chief, High-Frequency Impedance Standards, Radio Standards Laboratory, National Bureau of Standards; B. A. Diebold, chief, Components & Materials Branch, Standardization Division, U.S. Army Signal Equipment Support Agency;

At the meeting of IEC/TC 40-6, U.S. delegates confer—(left to right) J. Giesler; B. Goldsmith; C. D. Owens; J. Dalko.

At work during the meeting of IEC/TC 40-4—(left to right) A. C. Grove; B. Diebold; A. M. Okun, chief delegate; S. T. Zwerling.

U.S. delegation at the meeting of IEC/TC 12-1—L. Podolsky; J. Brothers, chief delegate; L. Ruth.

A moment of conviviality at the main banquet—Mr Wealo, United Kingdom, and Conrad Muller, USA.

H. J. Geisler, manager, Component Application Engineering, International Business Machines Corp; A. C. Grove, General Precision Laboratory, Inc; Stanley Zwerling, manager, Missile & Space Vehicle Department, Technical Requirements & Analysis Operation, General Electric Co.

TC 40-1: Capacitors and Resistors – Leon Podolsky (chief delegate); B. A. Diebold; L. W. Foster, supervisor, Product Engineering, Electronic Specialty Capacitor Product Section, General Electric Co; A. C. Grove; Louis Kahn, technical assistant to the president, Aerovox Corp; Jesse Marsten, vice-president, International Resistance Co.

TC 40-2: R.F. Transmission Lines and Their Accessories – Dr J. W. E. Griemsmann (chief delegate), associate director, Microwave Research Institute, Polytechnic Institute of Brooklyn; Tore N. Anderson, vice-president, Airtron Inc, Division of Litton Industries; John W. McLeod, Andrew Corp; Dr R. M. Soria, vice-president, Research & Engineering, Amphenol-Borg Electronics Corp.

TC 40-3: Piezoelectric Crystals – Dr E. A. Gerber (chief delegate), director, Frequency Control Division, Electronic Components Research Dept, U.S. Army Signal Engineering Laboratories; Carl Gardner, Components & Materials Branch, Standardization Division, U.S. Army Signal Equipment Support Agency.

TC 40-4: Connectors and Switches – A. M. Okun (chief delegate); B. A. Diebold; A. C. Grove; Stanley Zwerling.

TC 40-5: Basic Testing Procedure – E. F. Seaman, (chairman TC 40-5), Standardization & Conservation Planning, U.S. Navy Department, Bureau of Ships; C. R. Muller (chief delegate), ITT Laboratories; Dr R. O. Fehr, manager, Mechanical Engineering Laboratory, General Electric Co; H. J. Geisler; B. Goldsmith, president, Essex Electronics; A. C. Grove; Stanley Zwerling.

TC 40-6: Parts Made of Ferro-Magnetic Oxides – J. L. Dalke (chief delegate); H. J. Geisler; B. Goldsmith; C. D. Owens, Bell Telephone Laboratories, Inc.

TC 39/40: Sockets & Accessories for Electronic Tubes & Valves – A. M. Okun (chief delegate); John C. McAdam, vice-president, Engineering, International Electronic Research Corp; Stanley Zwerling.

TC 12: Radio-Communication–J. T. Brothers (chief delegate), Components Section, Engineering Dept, Philco Corp; A. C. Grove; Leon Podolsky.

TC 12-1: Measurements – J. T. Brothers (chief delegate); Leon Podolsky; L. C. Ruth, RCA International.

TC 12-2: Safety – J. T. Brothers (chief delegate); Leon Podolsky; Stanley Zwerling.

TC 12-6: Radio Transmitters – A. M. Okun (chief delegate); Leon Podolsky; Stanley Zwerling.

TC 12-7: Climatic & Durability Tests for Radio-Communication Equipment – C. R. Muller (chief delegate); A. M. Okun; Stanley Zwerling.

Spanish-type building in Florida combines a 729-bed home and 525-bed hospital, including a rehabilitation center for the blind and a training program in surgery.

How to Measure Hospital Areas

by WILLIAM Z. BOWIE

THE NEW AMERICAN STANDARD Methods of Determining Areas in Hospitals and Related Facilities, Z65.4-1959,[1] now makes available uniform methods of computing hospital areas similar to those already completed for public buildings, schools, and office buildings. This completes work in four of the five major

[1] Copies of American Standard Z65.4-1959 can be obtained from ASA at 35 cents per copy.

Very different in design from that shown on page 14, this modern building is a 1000-bed Veterans Administration hospital at Topeka, Kansas.

fields assigned to subcommittees by Sectional Committee Z65. Work on industrial buildings, assigned to a fifth subcommittee, is getting under way. Sectional Committee Z65, Building Areas, is sponsored by the National Association of Building Owners and Managers and the Office of Education, Department of Health, Education and Welfare.

The new standard provides approved methods for measuring the gross area of hospital buildings, the areas in which patients and visitors circulate, and the areas used by the hospital's departments.

In determining a method to measure the gross area of hospitals, the subcommittee followed closely the method adopted for public buildings, school buildings, and office buildings—the only deviation being the addition of a footnote to provide flexibility in cost estimating, programming, planning, and operation and maintenance.

The footnote resulted from the subcommittee's thinking that in some instances it might be desirable to add areas of open platforms, unroofed spaces, and unenclosed roofed-over areas to the gross area determined by the approved method, which excludes these areas from consideration. A footnote also points out that the standard is not intended for use in determining areas when planning fire exits.

MR BOWIE, chief of the Real Estate Division of the Veterans Administration, is chairman of the Subcommittee on Hospitals of Sectional Committee Z65, Building Areas.

The method for determining the circulation area of a hospital is particularly useful in architectural design. It provides a means for logical comparison of the areas used for general traffic and by the public with those required for the actual operation of a hospital.

The method for measuring departmental areas will help in checking the space to be assigned for use by one or more of the hospital departments. Use of the standard method is essential if space allotted for various operations is to be consistent and uniform in relation to the need.

During the process of developing these methods, the subcommittee considered a method for measuring "usable" areas. This was discarded, however, when it was found that it duplicated and was in conflict with the method for measuring departmental areas.

The subcommittee on methods of determining areas in hospitals has the following membership: William Z. Bowie, Veterans Administration, *chairman;* Columbus E. Lord, U.S. Department of Defense; Clemens J. Poiesz, Public Health Service; Samuel S. Shepherd, American Hospital Association; E. Todd Wheeler, American Institute of Architects. Special consultants to the subcommittee were W. O. Bender and W. P. Warendorff, both of the Veterans Administration.

Chairman of Sectional Committee Z65 is Henry Lear, manager of the Fidelity Philadelphia Trust Building, and secretary is Harry J. Garrity, counsel of the National Association of Building Owners and Managers.

Courtesy W. S. Tyler Company

American Standard a Factor in International Work

by LEWIS V. JUDSON

How to select series of sizes of test sieves for international standardization was an important point at the meeting of ISO/TC 24. Series at left is typical of set of standard testing sieves with openings decreasing from coarse to fine according to a fixed ratio.

Courtesy United States Testing Company Inc.

THE NEW EDITION OF AMERICAN STANDARD Specifications for Sieves for Testing Purposes, ASTM E 11-58T; ASA Z23.1-1959, was an important factor in work being done by an international committee recently. This was Subcommittee 1 on Sieves of the International Organization for Standardization's Technical Committee 24, Test Sieves. The subcommittee met at The Hague October 7-10, 1959, and made progress toward development of an international recommendation.

The most important point under consideration was selection of the sieve sizes. The American Standard series of sizes progresses on the basis of the fourth root of 2. Other bases for sieve sizes had been proposed at earlier meetings. The position of the USA in using the fourth root of 2 had been thoroughly explained and debated. As a result, there was no need for further debate on this point.

Strong support developed during the meetings to extend the 14 apertures adopted previously by adding five more. This would make a complete geometric series of 19 sieves from 0.045 mm (No. 325) to 22.4 mm (7/8-in. opening).

The committee voted to instruct the secretariat to submit this series of apertures as a draft proposal for vote of the technical committee.

This was acceptable to the U.S. delegation, since the series includes every alternate sieve of the U.S. fourth root of 2 series, from the ⅞-in. opening in the Coarse Series to the 44 micron (No. 325) sieve in the Fine Series.

It was discovered that other countries did not understand why the U.S. Sieve Series was split into two tables, Coarse and Fine Series. They had the impression that only the Fine Series was in the fourth root of 2 ratio. The U.S. delegation pointed out that by omitting the 4-,2-,1-,½- and ¼-in. sieves, which were included because of common use, and by using the 4.24 in., 2.12 in., 1.06 in., 0.530 in., and 0.265 in., the Coarse as well as the Fine Series was in the geometric ratio of the fourth root of 2.

The proposed ISO Sieve Series Recommendation will include sieves from both the Coarse and Fine Series. For this reason, the U.S. delegation recommends that in the next revision of the U.S. specification the two series be combined into a single master standard series and that the 4-,2-,1-,½-, and ¼-in. sieves be designated as supplementary sieves.

The international subcommittee voted unanimously that the openings of the sieves 1 mm and coarser

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DR JUDSON, physicist, Office of Weights and Measures, National Bureau of Standards, was leader of the U.S. delegation that attended the meeting of Subcommittee 1 on Sieves of ISO Technical Committee 24. He is secretary of Sectional Committee Z23, Specifications for Sieves for Testing Purposes, which acts as the American group for ISO/TC 24. Sponsors of Z23 are the American Society for Testing Materials and National Bureau of Standards.

should be expressed in millimeters, and openings below 1 mm should be expressed in microns.

The U.S. delegation believes that this is a sound idea and that it should be adopted for the U.S. series. It has always seemed awkward to express sieve openings in thousands of microns and this possibly explains why these micron designations for the sieves coarser than 1 mm have failed to win wide use.

The problem of wire diameters, and of tolerances for both openings and wire diameters, proved too difficult to resolve in a large meeting. It was left to a small working committee to study the problem and submit a recommendation. The sentiment of the meeting was clearly in favor of specifying wire diameters with tolerances such that sieves of the member countries would be accepted. However, the most important step to be taken was adoption of the series of apertures; in the opinion of the committee, pending a final solution, the standards of each country could govern as to wire diameters and tolerances.

As explained at the time the revised edition of American Standard Z23.1-1959 was submitted to the American Standards Association for approval, the revision "resulted from consideration given under the auspices of the International Organization for Standardization to sieve specifications from an international viewpoint." In the revised edition, the wire diameters of each sieve were changed from a permissible range of diameters to a single recommended nominal wire diameter for each sieve with permissible deviations expressed in percentages.

It was a great satisfaction to the U.S. delegation to see that the action taken by the American Society for Testing Materials and other technical organizations, and the American Standards Association in modernizing the wire diameter specification had made a profound and favorable impression on the other members. In the opinion of the delegation, the positive U.S. action taken in revising the American Standard ASTM E 11-58T, ASA Z23.1-1959, was an important factor in arriving at a draft proposal which is fully compatible with the American Standard.

The preparation of a proposal for perforated plate sieves was left to a small working committee with some specific instructions, all of which were considered to be in line with the American viewpoint. If the United Kingdom and the U.S. delegations believe it is desirable, they can submit a supplementary table of values for perforated metal sieves having apertures in inches and binary fractions of an inch.

At the unanimous request of the delegations, the leader of the U.S. delegation remained for the meetings of Subcommittee 2 on sieving. Among the subjects discussed were sieve frames, sieving equipment, sieving procedures, and expressions of the results of sieving. Despite early indications of possible arbitrary actions, a spirit of cooperation was quickly engendered, and resolutions compatible with the practices of the member countries, including the U.S., were adopted. Dr Judson acted unofficially as an observer member, but he was appointed to a small working group and his opinion was requested on each resolution adopted, as well as on other subjects debated.

The cooperation among the delegations evident during the meetings gives hope that a complete international specification for test sieves will be achieved in the not too distant future.

Participating member countries present at the meeting of Subcommittee 1 were France, Germany, India, Netherlands, United Kingdom, and USA.

Charles Phelps Cushing

W. S. Tyler Company

Above—Spillways of the Wilson Dam at Muscle Shoals, Ala. Strength of concrete used in dam construction is insured by constant control sieve analysis of all ingredients going into the concrete aggregate—see photo at right.

This is the twenty-seventh installment in the current series of rulings as to whether unusual industrial injury cases are to be counted as "work injuries" under the provisions of American Standard Method of Recording and Measuring Work Injury Experience, Z16.1-1954 (Reaffirmed 1959). The numbers in parentheses refer to those paragraphs in the standard to which the cases most closely apply. Decisions on unusual industrial injury cases are issued periodically by the Z16 Committee on Interpretations.

Sectional Committee Z16 is sponsored by the National Safety Council and the Accident Prevention Department of the Association of Casualty and Surety Companies.

INDEX TO CASES 400-700. An index to Cases 400-700 has now been completed. Arranged numerically by the number of the applicable paragraph of American Standard Z16.1-1954 (R1959), the index includes the number of the case indexed and a key letter indicating what the decision was in each case. Each index reference includes a brief description of the case.

Reprints of Cases 400-700, with the index, are now available from ASA at $2.25. Discounts for quantity orders may be obtained on request.

Are These Cases Work Injuries?

CASE 733 (1.6)

An employee whose next shift did not begin until 11 P.M. on May 8, and whose scheduled pay period was not until 7 A.M. the following morning, went to the mill during her off-duty hours to pick up her pay check. After picking up her pay check, she went upstairs to the girls' lounge which was directly above the pay area on the second floor. When she returned, coming down the stairs at 2 P.M., she caught her heel and fell the remaining distance to the ground floor. About a month later the employee began missing work due to a back condition sustained when she fell on the steps.

Decision: This injury should not be considered industrial and should not be included in the work injury rates because the employee was not in the course of employment. Although she was on company property, she was there to get her pay in advance of regular pay time, and this was for her own convenience.

CASE 734 (5.4)

An employee stepped on a pile of coal, causing him to fall and twist his knee. This incident was reported as a minor injury. On the following day, the employee started to descend a stairway. As he stepped on the first step, his leg buckled, and he started to fall. He grabbed the hand railing to avoid falling, and in doing so his body was in a twisted position, resulting in acute strain of the lower back.

The company questioned whether the injury referred to in paragraph A5.4, Example 4, was merely a recurrence of the condition (the trick knee), or whether it could have been another condition (a broken arm, strained back, etc).

Decision: This case should be considered an industrial injury and included in the work injury rates. Paragraph 5.4 means that if an employee had a trick knee which continued to recur without any work-connected provocation, these many recurrences would not each be counted as a new injury; but in this case, where the ultimate disability was so closely connected to the original work injury, both in time and circumstances, the ultimate disability actually was a part of the original work injury.

CASE 735 (5.1)

A rotary helper was in the act of standing back a drill collar when he experienced a sharp, burning sensation in his left side. He mentioned the incident to fellow employees, but because the discomfort was of short duration, he continued to work, thinking it was probably due to pulling a small muscle in the groin. When taking a bath following work, the employee noticed a very small lump in his left groin, but since he was not suffering any degree of discomfort, he still did not place much significance on the incident.

The man worked the next two days without any great discomfort, but found he was conscious of an odd sensation in the area of the left groin. On the third day, arrangements were made for an examination by the doctor, who found what he diagnosed as a left indirect hernia. He released the employee to continue working, but with the advice to use caution and to avoid heavy work.

There was a clear-cut history of industrial injury, and arrangements were made for corrective surgery. However, the company questioned whether this injury should be counted in the rates on the basis that the employee was not forced to stop work as specified in paragraph: 5.1 (c).

Decision: This hernia should be considered a work injury and included in the work injury rates. Although the employee was not forced to stop work, he did draw the attention of his fellow employees, thus satisfying paragraph 5.1 (c).

CASE 736 (1.6)

An electrician was asked by the foreman to help in handling pipes for repairing a steam line, but the electrician refused as it was not his specialty. He told the foreman that he was going to read a magazine in his electrical repair shop as he had nothing to do. Two hours later the man was found dead, sitting at his work bench with the open magazine on it. An open charcoal heater was burning, and all the windows and the door were tightly shut. The autopsy read "asphyxiation from carbon monoxide."

Plant rules prohibited charcoal heaters, and every winter the danger of these heaters was emphasized for plant and off-the-job safety by means of posters and newspaper cuttings. In this case, with three of the eight men on shift absent, the foreman had been too busy to do his usual round of inspection. The company considered that the man had taken himself off the job.

Decision: This should be considered as an industrial fatality and included in the work injury rates. Because the employee had no work at the moment and had sat down to read a magazine, he should not be considered as having taken himself out of his employment; he was in his shop and available for the next job which turned up. The fact that he disobeyed rules with regard to the heater does not influence the decision, although it may be shown as a cause of the fatality.

CASE 737 (1.6)

At a company training service station a trainee was checking the level of grease in the car differential with the little finger of his left hand. At this moment one of the rear wheels was turned, causing the gears in the box to turn, catching the tip of the finger and crushing it. The injury was severe enough to require a doctor's attention.

The injured trainee received no payment for his services, was not employed by the company, and was participating in the company training program in order to be in a position to qualify as a service station salesman when such an opening would occur.

Decision: This injury should not be considered industrial and should not be included in the work injury rates on the basis that the injured person was not an employee, and there was no employment relationship with this person at the time of injury.

CASE 738 (5.1)

The operator on the cracking unit in the chemical products division asked the assistant operator to pour some gas oil in the sample pot used to determine gravity of the tar. This was a routine operation performed many times by operating personnel on this unit, and by this assistant operator in particular. The sample pot was constructed of a piece of 6-in. pipe with a water and steam jacket and was about 1 ft high. It was about 18 to 20 in. from the unit firewall, and about 4 or 5 ft above the ground level. It was attached to a supporting beam of the unit.

The assistant operator got a 5-gal can, went to the sample point and half filled it with gas oil. It was estimated that the can and oil weighed approximately 25 lb. He was holding the can in his right hand as he stepped onto the firewall, which was 18 in. high and 8 in. wide. As soon as both feet were on the firewall he became overbalanced and began falling backward. He regained his balance and felt a stinging, burning sensation in the left inguinal region which gave him a sensation as if he had been stuck with a pin. He believed at the time that he had strained a muscle. He leaned over and poured the gas oil into the sample pot, and the stinging continued as he poured. When he stepped down from the firewall he thought he had hurt himself, and about 15 minutes later he felt a heavy sensation in his left inguinal region which upon self-examination revealed a lump in this area. He called the lump to the attention of another employee, and was taken to the plant hospital where the first-aid man on duty advised him to return later in the day when a physician would be available. Later that day the company physician examined the man and found that he had a large left inguinal hernia. Previous periodic physical examination had not revealed any hernia.

The company questioned whether this hernia should be counted in the rates, because the employee was performing his usual work in the normal manner and had incurred the injury prior to the most physically demanding part of his task, that of lifting the 25-lb pail of oil.

Decision: This hernia should be considered industrial and should be included in the work injury rates on the basis that the situation described meets all of the three conditions set up in paragraph 5.1.

CASE 739 (5.3)

A truck driver reported that two days previously, when he attempted to raise himself by pushing down on the seat with both hands so that he could get out from under the steering wheel, he felt a pain in his left wrist. At the time the employee reported the incident, the wrist was swollen and painful. X-rays showed a calcific deposit around the wrist tendon which the examining physician stated could have resulted from an old injury, and was apparently aggravated by the pushing-up meaneuver.

Decision: This case should be considered a work injury and included in the rates on the basis that there was definite evidence that the pre-existing condition of the employee was aggravated by a work activity, and this belief was supported by the doctor.

CASE 740 (1.6)

While lifting one end of a 6-in. joint pipe to place it on a skid board, an employee sustained an injury to his back. There was no loss of time from work as a result of the injury, but the attending physician placed him on light duty to avoid heavy lifting. The employee had periodic pain and discomfort in his back during this period of light duty, and was never released by the attending physician from the light duty status.

One year later, while this man was at home on his scheduled day off, he attempted to get up quickly from a chair, and in this process he again injured his back. As a result of this second injury, the employee was placed in the hospital to undergo treatment in the form of traction and diathermy. The attending physician diagnosed this as an aggravation of the pre-existing injury.

Decision: This injury should not be considered industrial, and should not be included in the work injury rates. There was such a long period of time between the industrial injury which did not result in loss of time, and the home accident, that the latter should be considered as a separate incident, and not as aggravation of the previous work injury.

STANDARDS FROM OTHER COUNTRIES

Members of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Information about those standards not selected for listing in THE MAGAZINE OF STANDARDS may also be obtained from the ASA Library. Orders for these standards may be sent to the country of origin through the ASA office. Titles are given here in English, but documents are in the language of the country from which they were received. For the convenience of readers, the standards are listed under their general Universal Decimal Classification number. In ordering copies of standards, please refer to the number following the title.

539.1 RADIOACTIVITY

Czechoslovakia (CSN)

Rules for protection against radioactive materials CSN 34 1730

France (AFNOR)

Vocabulary for nuclear energy PN M 60-001

621.3 ELECTRICAL ENGINEERING

Australia (SAA)

Approval and test specification for portable electric drills C.160-1959

SAA code for electrical installations in caravans and caravan parks CC.7-1959

Canada (CSA)

Specification for indoor oilless power circuit breakers C81-1959

Construction and test of electric heating equipment for medical and dental use C22.2 No. 121-1959

Construction and test of electric cranes and hoists C22.2 No. 33-1959

Construction and test of electric air-heaters C22.2 No. 46-1959

Czechoslovakia (CSN)

Rules for the use of aluminum in electrical engineering CSN 34 0290

Receptical and plug for three-phase open air connections, 25-60 amps, 380-500 v CSN 35 4511

Electric soldering iron CSN 36 1485

Plugs and receptacles, 15 amp, 380 v with flat prongs CSN 35 4509

Capacitors, electrolytic, with aluminum electrodes CSN 35 8350

France (AFNOR)

Vocabulary for electrical engineering. Group 30. Electric traction NF C 01-030

Vocabulary for electrical engineering. Group 35. Electromechanical applications NF C 01-035

Germany (DNA)

Switchboard symbols for power and telecommunication lines DIN 40700

Arrangement of connections DIN 41113

Paper fixed capacitors 125 v - up to 1 kv DIN 41161

Bushings for radio and similar apparatus DIN 41503

Plug for telecommunication apparatus DIN 41520

Sub-miniature tubes, round, five prongs DIN 41546

4 stds for sockets for different sub-miniature tubes DIN 41552, 41553

Multiwire connecting boards for small flat plugs, dimensions DIN 41622

Fuses type G, E16, 250 v DIN 41687

Union for water cooling line for ignitrons, dimensions DIN 44415

Insulated 1-3- wire parallel power line, type NYJE, up to 380 v DIN 47715

Light and medium light plastic insulated lines, types NYLHY(PR) and NYMHY (PR) DIN 47718

5 stds for component parts of open air rib-insulators for 110 and 220 kv DIN 48110

Metal tubes for hanging electric lights DIN 49970

Symbols for formulas used in telecommunication DIN 1344

Thermometer case for oil transformers DIN 42554

Air cooler of oil, 75 kw DIN 42557

Radiators for oil transformers DIN 42559

Television engineering, terminology DIN 45060

Discharge lamps without pre-heater DIN 49659

2 stds for 3- and 4-pole telephone jack DIN 41700/1

Lead-in insulator for 10-30 kv, 200 amp, indoor and outdoor installation DIN 42531

Transformers, dry, self-cooling, copper winding 50 cycles from 30-500 kva DIN 42524

Lead-in insulator for 3 kv, 200-3150 amp, indoor or outdoor installation DIN 42539

Connecting bolts for current carrying conductors up to 1600 amp DIN 46200

Ferrule for S-type insulators for overhead line DIN 48154

2 stds for gages for the type G13 lamp base DIN 49660/1

Hungary (MSZH)

Electric power safety code for equipments up to 1000 v MSZ 1600-58

Israel (SII)

Hand-operated air-break switches and isolators S.I. 302

Japan (JISC)

Electric heating wires and bands JIS C 2520

Butyl rubber insulated cable JIS C 3603

Three-phase induction motors for export JIS C 4205

Medium oil-immersed 3 kv transformer JIS C 4301

Pole transformer, 6 kv JIS C 4304

Single phase oil-immersed 6 kv transformer JIS C 4305

Rigid P.V.C. conduit tubes JIS C 8430

X-ray tube, medical JIS Z 4101

Rectifier tube for x-ray JIS Z 4201

2 stds for medical x-ray high tension generator JIS Z 4603/4

Geiger-Muller counter tube for "beta-ray" JIS Z 4202

Netherlands (NNI)

Directives for shunt capacitors for power systems and their application NEN 3163

New Zealand (NZSS)

Standard specification for miniature circuit breaker for use on a.c. circuits NZS 1279:1958

Sweden (SIS)

Classification of insulating material for installations up to 600 v SEN 21 06

Insulation for high voltage overhead transmission lines SEN 21 07

Cable boxes for lead sheathed paper insulated power cables SEN 24 04

Starters, regulating and protective apparatus for electric machines SEN 28 01

Fundamental elements and definition for radio transmissions SEN 47 01

Method of testing home radio receivers SEN 47 02

Radiation emitted from radio receivers SEN R 47 03

Porcelain insulator type IR 10 SEN 24 06 25

3 stds for wiring conduits SEN 24 10 50/2

Telegraph material. Pre-formed concrete blocks for stay rods. Non-reinforced SEN 24 11 35

17 stds for different hardware used in installation of telegraph lines SEN series 24 11 40, - 90

5 stds for different flanged connection boxes SEN 28 09 01/2, 28 04 04/7

33 stds for different electrical installation marine type fittings SEN series 30 03 30 thru 30 02 95

4 stds for different electric cooking appliances for institutions SEN 33 03 01/5

3 stds for fire-alarm cables types EKA, EKAJ, EKAL SEN 55 02 13,-22,-31

Union of South Africa (SABS)

List of electrotechnical terms: Group 30: Electrical traction SABS 042-30-1959

Standard specification for overhead service line connector boxes SABS 166-1959

United Kingdom (BSI)

Electricity meters: Alternating current precision kilowatt-hour meters for testing purposes BS 37: Part 8:1959

Enamelled copper conductors (enamel with polyester base). Round wire BS 3160: Part 1:1959

Fixed carbon resistors for use in telecommunication and allied electronic equipment: General requirements and tests BS 2112: Part 1:1959

USSR

Copper cathodes, technical requirements GOST 546
Bare conductors, copper, aluminum and steel-aluminum for overhead lines GOST 839
Insulating materials, tests for dielectric properties GOST 9141
Electric measuring instruments, packing requirements GOST 9181
Seven-prong plug-receptacle connector for automobiles and tractor GOST 9200
Storage batteries, cadmium-nickel and iron-nickel GOST 9241
Potentiometers, dc, for measurement GOST 9245

621.6 FLUID DISTRIBUTION, STORAGE, CONTAINERS. PIPES. PUMPS

Czechoslovakia (CSN)

Pipe fittings. Technical requirements CSN 13 3060
Sluice valve of grey cast iron, 2.5 kg/cm² CSN 13 3710
Sluice valve of grey cast iron, 10 kg/cm² CSN 13 6505

Denmark (DS)

30 different Danish standards for cast iron, pipes and fittings for pressure lines DS 942 thru 971

Germany (DIN)

Pure aluminum and wrought aluminum alloy pipes DIN 9107
Wrought aluminum alloy pipes DIN 1746
Hard p.v.c. pipes, rules for machining DIN 16928

Hungary (MSZH)

2 stds for seamless spigot and socket pipes MSZ 2996/7-57
33 stds for different malleable cast iron pipe fittings MSZ series 6001-6029-58
17 stds for different types of grey cast iron valves MSZ 8470/86-58

Italy (UNI)

Steel gas pipes, seamless and welded, commercial series, both ends threaded, with union UNI 3824
2 stds for steel gas pipes, seamless and welded, medium and heavy series, threaded both ends, with union UNI 4148/9

Netherlands (NNI)

Gas and water surface boxes NEN 2160

Switzerland (SNV)

Steel pipes, threaded, medium series VSM 11520

United Kingdom (BSI)

Asbestos cement flue pipes and fittings, heavy quality BS 835:1959

USSR

Test- and working-pressures for pipe fittings GOST 356
Flanged blinds for piping up to 200 kg/cm² pressure GOST 6973
Check valve, flanged, grey cast iron, up to 16 kg/cm² pressure GOST 9085

669 METALLURGY

Belgium (IBN)

Sampling and preparation of samples and test bars NBN 148
3 stds for unalloyed steel rods for wire drawing NBN 522/4
Content of nickel in steel and cast iron. Gravimetric method NBN 535

France (AFNOR)

Determination of chrome contents in steels and cast iron NF A 06-308
Colorimetric method for determination of zirconium contents in aluminum and aluminum alloys NF A 06-582
Colorimetric method for determination of beryllium contents in aluminum and aluminum alloys NF A 06-584

Germany (DNA)

5 stds for hot rolled I-H beams DIN 1025
Hot rolled channels DIN 1026
Hot rolled Z-shapes DIN 1027
Hot rolled equal angle shapes DIN 1028
Hot rolled unequal angle shapes DIN 1029
2 stds for cold rolled flat strips formed in U-L-Z profiles DIN 6941/42
Testing of unalloyed steel sheets from 0.5-2 mm thick DIN 54 152

Italy (UNI)

2 stds for laminated aluminum and aluminum alloys UNI 4196/7
2 stds for laminated zinc and zinc alloys UNI 4201/2

Mexico (DGN)

Steel sheet used for manufacture of liquid petroleum gas containers B-42-1958

Spain (IRATRA)

Steel products, identification color markings UNE 36008
Ferrochrome UNE 36154
Steel: bars for bolts and nuts, rivets, etc UNE 36546
Steel: strips and flat bands for manufacturing pipes UNE 36556
Steel: one-bulb rolled strips for welded constructions UNE 36558

Sweden (SIS)

Steel for pressure vessels MNC 830
End quench test for hardenability of steel SIS 11 70 02
Round steel wire, cold drawn. Diametrical tolerances SIS 12 11 24
9 stds for different grades of steel SIS 14 13 30/32, 14 14 30/32, 14 21 01/3
Comments and directions regarding Swedish standard specifications for metals — 1958 (No number)
Explanations of terms and symbols used in Swedish standard specifications for metals SIS 11 00 02
Sampling for Charpy V-notched impact test SIS 11 01 51
Sampling for hardness test of metals SIS 11 01 70
Aluminum and aluminum alloys. Plastic treated. Summary MNC 40
Aluminum and aluminum alloys. Sheet and strip. Summary MNC 140
Aluminum and aluminum alloys. Bars. Summary MNC 340
Aluminum and aluminum alloys. Wire. Summary MNC 440
Aluminum and aluminum alloys. Tubes. Summary MNC 540
Aluminum and aluminum alloys. Forgings. Summary MNC 640
2 stds for brass, cold drawn bars SIS 12 21 31,-62
Copper, cold drawn bars SIS 12 21 61
4 stds for different grades of aluminum SIS 14 40 05,-07/8,-10
Aluminum alloy type Al Mn SIS 14 40 54
Aluminum alloy type Al Mg Si SIS 14 41 04
2 stds for aluminum alloy tpye Al Mg SIS 14 41 06,-020
Aluminum alloy type Al Mg Si SIS 14 42 12
Aluminum alloy type Al Cu Mg Pb SIS 14 43 35
Aluminum alloy type Al Cu Mg Si SIS 14 43 38

Switzerland (SNV)

Grey cast iron VSM 10691
Cold rolled steel strips and bands VSM 11250

United Kingdom (BSI)

Broad flange beams, universal beams and column sections BS 4B:1959
Steel sheets for magnetic circuits of power electrical apparatus: Non-oriented steel BS 601:Part 1: 1959
Mechanical testing of steel at elevated temperatures: Stress rupture BS 3082:Part 2:1959
Ferrous and non-ferrous bourdon tubing BS 3127:1959
Soft solders BS 219:1959
Mechanical testing of steel at elevated temperatures. Non-interrupted creep testing BS 3082: Part 3:1959
Interrupted creep testing BS 3082:Part 4:1959
Investment castings in metals. Carbon and low alloy steels BS 3146:Part 1:1959

674 WOOD INDUSTRY

Austria (ONORM)

Different shapes and sizes of lumber from coniferous species ONORM B 3001

Canada (CSA)

Specification for wood preservation O80-1959
Code of recommended practice for engineering design in timber O86-1959

Germany (DNA)

Wood processing waste: terms and calculation method DIN 68201

India (ISI)

Non-coniferous sawn timber for further conversion IS:1326
Aircraft timber intended for further conversion IS:1329
Art sizes of timber IS:1331
Logs for matches IS:1140

NATIONAL MEETINGS SCHEDULED IN 1960
by ASA and ASA Member-Bodies and Associate Members

ASA	Eleventh National Conference on Standards, New York, N.Y. (Hotel Sheraton Atlantic) October 25, 26, and 27 Annual Meeting December 8
January	
11-14	Natl Retail Merchants Assn
11-15	Soc of Automotive Engrs
12-15	Soc of Plastics Engrs
14-16	Heat Exchange Inst
18-20	Compressed Gas Assn
24-27	Truck-Trailer Mfrs Assn, Inc
27-29	Aluminum Assn
3rd week	Amer Railway Car Inst
February	
1-5	Amer Soc for Testing Materials
2-4	Soc of the Plastics Industry
22-24	Natl Concrete Masonry Assn
24-28	Amer Inst of Laundering
Jan or Feb	Assn of Roller & Silent Chain Mfrs
March	
7-8	Steel Founders' Soc of Amer
7-10	Amer Soc of Bakery Engrs
10	Indiana Limestone Inst
20-23	Scientific Apparatus Makers Assn
21-23	Inst of Radio Engrs
21-24	Associated General Contractors of Amer
2nd week	Mfrs Stdzn Soc of the Valve and Fittings Industry
3rd Wed	Certified Ballast Mfrs
30-Apr 1	Gas Appliance Mfrs Assn
April	
18-23	Amer Inst of Architects
21-28	Amer Soc of Tool Engrs
25-27	Industrial Fasteners Inst
25-29	Amer Welding Soc
30-May 5	Mechanical Contractors Assn of Amer, Inc
May	
1-4	Air-Conditioning and Refrigeration Inst
8-12	Natl Fluid Power Assn
10	Assn of Casualty & Surety Cos
15	Natl Clay Pipe Mfrs, Inc
15-20	Amer Water Works Assn
16-20	Natl Fire Protection Assn
18-20	Anti-Friction Bearing Mfrs Assn
23-25	Natl Assn of Purchasing Agents
23-26	Natl Lime Assn
24-26	Amer Soc for Quality Control
25-26	Amer Iron and Steel Inst
25-28	Copper and Brass Research Assn
During first 2 weeks	Natl Assn of Automotive Mutual Ins Cos Natl Assn of Mutual Casualty Cos
June	
5-8	Amer Gear Mfrs Assn
6-8	Edison Electric Inst
9-11	Acoustical Soc of Amer
19-24	Amer Inst of Electrical Engrs
20-22	Amer Soc of Heating and Air-Conditioning Engrs (now merged with ASRE) Amer Soc of Refrigerating Engrs (now merged with ASH&ACE)
20-23	Natl Assn of Plumbing Contractors
26-July 1	Amer Soc for Testing Materials
July	
10-13	Truck-Trailer Mfrs Assn, Inc
11-15	Outdoor Advertising Assn of Amer
August	
29-Sept 1	Amer Hospital Assn
September	
11-16	Illuminating Engrg Soc
25-28	Natl Bldrs Hardware Assn
26-28	Standards Engrs Soc
26-30	Instrument Soc of Amer
27-30	Assn of Iron & Steel Engrs
October	
6-9	Amer Assn of Textile Chemists & Colorists
10-12	Amer Gas Assn
10-13	Amer Mining Congress
10-14	Amer Soc of Civil Engrs
13-15	Amer Hotel Assn
16-19	Farm Equipment Inst
16-21	Amer Trucking Assns, Inc
17-20	Amer Dental Assn
17-21	Natl Safety Council
20-22	Acoustical Soc of Amer
22-25	Conveyor Equipment Mfrs Assn
23-26	Amer Gear Mfrs Assn
25-27	Natl Conference on Stds, ASA
31-Nov 2	Natl Fluid Power Assn
2nd Tues	Motion Picture Research Council
November	
2-4	Natl Machine Tool Bldrs Assn
14-16	Amer Petroleum Inst
13-16	Natl Lumber Mfrs Assn
14-18	Natl Electrical Mfrs Assn
16-19	Soc of Naval Architects and Marine Engrs
27-Dec 2	Amer Soc of Mechanical Engrs
December	
4-7	Amer Inst of Chemical Engrs
8	ASA Annual Meeting
14-16	Atomic Industrial Forum, Inc

News Briefs...

• ASA's MECHANICAL Standards Board has voted in favor of the American Standards Association participating actively in international work on cranes, derricks, and excavators. The project will be organized by the International Organization for Standardization.

• FRANK O. HOAGLAND, Harry W. Robb, and Leland D. Cobb, all active in the work of the American Standards Association, were among those elected to the grade of Fellow by the American Society of Mechanical Engineers last year.

Mr Hoagland, who was awarded the Standards Medal by the American Standards Association in 1952, was cited as having made "brilliant contributions to the technical work of many ASA-ASME committees." Early in his 50-year career Mr Hoagland was chief engineer with the Remington Arms Company. For 45 years he served as master mechanic with the Pratt & Whitney Company. "His deep understanding of the role of standards in American mass production made him an early advocate of standard practices in the machine tool and allied industries," ASME says. During World War II, he contributed much to technical advancement in the manufacture of gun barrels and served as technical expert for the War Production Board. He holds more than 80 patents. He received the Gold Medal at the 1915 Panama-Pacific International Exposition for the development of arms and ammunitions. Mr Hoagland has been a member of ASME since 1913 and was honored by ASME with the Seventy-fifth Anniversary Medal.

Mr Robb has been engaged in engineering staff activities with the General Electric Company since 1923. Until December 1958 he was manager—Company Standards in Engineering Standards Service, and is now a consultant in the Engineering Administrative Consulting Service. A member of the ASME Standardization Committee from 1949 to 1953, he was chairman in 1953. He is now completing five years as a member of the ASME Codes and Standards Committee. In 1957 he was appointed one of the Society's representatives on the ASA Standards Council. He represents NEMA on the ASA Graphic Standards Board and Mechanical Standards Board, and is vice-chairman of the MeSB. Mr Robb was chairman of the ASA Company Member Conference in 1947 and 1948, and has been chairman since 1947 of Sectional Committee Z55, Colors for Apparatus, and B18, Bolts, Screws, Nuts, and Rivets. He has been a member of 14 sectional committees and numerous subcommittees. He has been active in American-British-Canadian standardization on screw threads, bolts and nuts, and limits and fits, serving as chairman of the 1950 ABC Conference. He was leader of the American delegations to the London meeting on bolts and nuts in 1951 and to the conferences on limits and fits in 1952 and 1953.

Mr Cobb, manager of research and development, New Departure Division, General Motors Corporation, has more than 30 patents to his credit, and 25 patents pending. One of the patents taken out by him covered the first integral sealed ball or roller bearing, the basic idea which is used on approximately 30 percent of all bearings produced today. He was also responsible for design and building of a full-scale test rig for engine bearings which measures bearing-component temperature, speed, air flow, lubrication weighting, and bearing torque. Mr Cobb represents ASME on Sectional Committee B3, Ball and Roller Bearings.

• RUBBER EXPERTS from ten nations met in New York October 26-31 in sessions of ISO Technical Committee 45, Rubber. The meeting had been arranged by Committee D-11 of the American Society for Testing Materials which serves as the USA technical advisory group. The meeting was sponsored by the Rubber Manufacturers Association. The American Standards Association, as the U.S. member of ISO, served as host.

Chairman of the meeting was J. M. Buist of Britain's Imperial Chemical Industries, Ltd. The United Kingdom, through its British Standards Institution, holds the secretariat for the committee.

Standard test methods for natural rubber have been largely agreed upon, Mr Buist reported. At this meeting, work on product specifications was started, as well as on test methods for synthetic rubber.

On Thursday evening, October 29, the Rubber Manufacturers Association was host at a banquet for the delegates. They were welcomed by Ross R. Ormsby, president of RMA. Short addresses were given by Vice Admiral George F. Hussey, Jr, managing director of the American Standards Association; R. E. Hess, technical secretary of the American Society for Testing Materials; and Simon Collier, chairman of ASTM Committee D-11. Featured speaker was F. K. Schoenfeld, vice-president, research, B. F. Goodrich Company, who gave a talk on "Outlook for Man-Made and Crude Rubbers—Their Importance for the Future."

The detailed technical work of the committee is divided into working groups, 15 of which met in New York. During the meeting the committee reorganized its activities into ten working groups which will provide a better distribution of the work to be done in future meetings.

The nations represented at the meeting were: Canada, France, Germany, Italy, India, Netherlands, Sweden, United Kingdom, United States, and the USSR. The 24-man USA delegation was headed by Dr R. D. Stiehler, National Bureau of Standards.

Twelve ISO Recommendations have been published in the field of rubber. Another three draft ISO Recommendations are being circulated to the 41

member nations of the ISO for approval. Six additional draft ISO Recommendations were submitted to the ISO General Secretariat in September.

A total of 16 nations are participating members of the committee, including Australia, Austria, Hungary, Poland, Spain, and Switzerland in addition to those represented at the meeting.

• AUSTRIA, NORWAY, POLAND, Switzerland, and the United Kingdom have been elected members of the International Organization for Standardization's Council for a three-year term starting January 1, 1960. Germany and Israel have been elected to a two-year term as Council members. Fourteen members will serve on the Council, ISO's governing body, for the year 1960. In addition to the seven just elected, they are: France, India, Italy, Netherlands, Rumania, USA, and USSR.

• ERNEST HELDMANN, chief engineer, Holo-Krome Screw Corporation, Hartford, Conn., has been named one of the American Standards Association's liaison representatives on the Interdepartmental Screw Thread Commmittee. Mr Heldmann, who represents the Socket Screw Products Bureau on Sectional Committee B1, Screw Threads, replaces H. W. Robb, General Electric Company.

The Interdepartmental Screw Thread Committee of the Federal Government is responsible for development of screw thread standards used by all government departments. Its work is published in the well known Handbook H28. The committee functions under the leadership of the U.S. Department of Commerce.

Liaison representation, which is held by ASA on behalf of the Sectional Committees B1, Screw Threads; B2, Pipe Threads; and B18, Bolts, Nuts, Rivets, Screws, and Similar Fastenings, makes possible a close exchange of information between the government and industry groups. Representatives are nominated through the sponsor organizations of the three committees.

In addition to Mr Heldmann, other liaison representatives are: Richard B. Belford, Industrial Fasteners Institute; H. C. Erdman, National Screw and Manufacturing Company; R. F. Holmes, A. C. Spark Plug Division, General Motors Corporation; Frank P. Tisch, Voi-Shan Manufacturing Company; and W. G. Waltermire, The Lamson & Sessions Company.

• WORK IS PROGRESSING on an international project to make component parts of blood transfusion equipment interchangeable, no matter where they are made. It has happened in the past that such medical equipment sent from one country to another for disaster relief could not be used because it did not fit equipment locally available.

The standardization work for blood transfusion equipment is conducted by Technical Committee 76 of the International Organization for Standardization (ISO). The committee held its second meeting in London, England, last September.

The aim of the committee is to achieve functional interchangeability between transfusion equipment used in different countries by specifying essential requirements but not details of design.

A draft proposal for standards for disposable (single-use) equipment was discussed at the London meeting, and agreement was reached on most items. Arrangements were made for extensive practical trials on the interchangeability of equipment at present in use in the various member countries.

A new working group was set up at the London meeting to study the requirements for interchangeability, proper functioning, and safety of plastic containers for blood. The United States holds the secretariat of this group. Work has been in progress on glass containers for some time.

The U.S. delegation to the London meeting consisted of: Dr Sam T. Gibson, American National Red Cross, Washington, D.C.; Cdr Mary T. Sproul, Blood Preservation Research Laboratory, U.S. Naval Hospital, Chelsea, Mass., Dr. J. T. Tripp, Divission of Biologics Standards, National Institute of Health, Bethesda, Md; L. N. Button, Fenwall Laboratories, Inc, Framingham, Mass.

In addition to the United States, the following countries were represented at the London meeting: Canada, Denmark, France, Germany, Netherlands, New Zealand, Norway, Portugal, Sweden, Turkey, United Kingdom, and Yugoslavia. The United Kingdom holds the secretariat of ISO Technical Committee 76.

• STANDARDIZATION OF TEST methods and nomenclature will be the principal work of a new committee just organized by the Reinforced Plastics Division of the Society of the Plastics Industry. Called the Prepreg Committee, it is made up of representatives of companies producing reinforced plastics materials which have been pre-impregnated. Its initial efforts will be devoted to test methods and nomenclature.

• DR ARCHIBALD T. McPHERSON, associate director of the National Bureau of Standards, has been awarded the U.S. Department of Commerce Gold Medal for Exceptional Service. The award was made in recognition of Dr McPherson's work in improving the effectiveness of standardization activities of the Bureau, and of his major contributions to the development of young scientists and engineers.

• THE INTERNATIONAL ORGANIZATION for Standardization recently announced approval of ISO/R 130-1959, Identification of Mechanical Control Circuits for Aircraft, and ISO/R 131-1959, Expression of the Physical and Subjective Magnitudes of Sound or Noise. The ISO general secretariat plans to publish the new recommendations as soon as possible.

New Books...

HANDBOOK OF AUTOMATION, COMPUTATION, AND CONTROL. VOLUME II, COMPUTERS AND DATA PROCESSING. *Edited by Eugene Grabbe, Simon Ramo, and Dean E. Wooldridge. First edition.* 1959. 6 x 9. 1070 *pp. John Wiley & Sons. Inc, 440 Fourth Avenue, New York 16, N. Y.* $17.50.

Review by S. P. KAIDANOVSKY

The Handbook will consist of three volumes. Volume 1 on control fundamentals was reviewed in the July 1959 issue of THE MAGAZINE OF STANDARDS, page 214. Volume 2 is concerned with computers and data processing; and Volume 3 will cover systems and components.

Volume 2, Computers and Data Processing, consists of six parts, A to F, and a total of 31 chapters contributed by 41 experts in their respective fields. Part A deals with computer terminology and symbols. Letter symbols are standardized to some extent in Part E, design and application of analog computers. Elsewhere, letter symbols are defined when they are used. Terminology, based on publications of the Institute of Radio Engineers[1] and the Association for Computing Machinery,[2] has been compiled in a glossary. The IRE terminology is largely concerned with digital computer design, although some analog terms are included. The ACM terminology is concerned with programming. Part B is devoted to digital computer programming and Part C to the use of digital computers and data processors. Part D deals with the design of digital computers and Part E with the design and application of analog computers. Part F is concerned with unusual computer systems. Each of the 31 chapters contains an extensive bibliography.

The use of digital computers is dealt with in detail. The following applications are included: design of business systems; life and casualty insurance accounting; public utility customer billing; payroll and salary distribution; inventory control and aircraft production scheduling; scientific and engineering applications; handling of non-numerical information, such as performing logic on digital computers, game-playing machines, machine translation of languages, automatic literature searching and retrieval.

Analog computers have found wide application in many areas of engineering analysis and design. Some of the more important engineering fields in which analog computers are used include: guided missiles; aircraft; automotive design; submarines; nuclear reactors; chemical unit and process operation; internal combustion and turbine engines; electrical, hydraulic, and pneumatic control devices; electronic, electromagnetic and electromechanic instruments; general process control; information theory; operations research and linear programming.

Analog computers are also used in the simulation of field problems. Some of their areas of application are: static distribution in complex structures under static and transient conditions, pressure and fluid distribution in oil reservoirs, pressure distribution in gas pipe lines and similar fields. The design and use of analog computers is presented in detail.

The Handbook will serve as an excellent source of information for practicing engineers. It will provide management with background material for understanding modern techniques of importance to business and industry.

ASTM STANDARDS ON METAL POWDERS AND METAL POWDER PRODUCTS. *September* 1959. 86 *pp. American Society for Testing Materials,* 1916 *Race Street, Philadelphia* 3, *Pa.* $2.25. This compilation of ASTM specifications and test methods for metal powders and metal powder products has been prepared by ASTM Committee B-9 to make these standards available in convenient form. Methods are also listed in the contents which may be used, with modifications if necessary, to determine mechanical and physical properties not specifically defined in this publication. Two special appendixes are also included. One is a cross index of the standards for metal powders and metal powder products, generated by the Metal Powder Industries Federation, the Society of Automotive Engineers, Federal agencies, and the ASTM. The other appendix consists of a general description of the production, properties, and uses of metal powder sintered bearings and sintered metal powder structural parts.

[1] IRE standards on electronic computers: definition of terms. 1956. 56 IRE 8.51. *Proc. IRE,* 44, 1166-73

[2] *First Glossary of Programming Terminology.* Association for Computing Machinery, New York, 1954.

AMERICAN STANDARDS

If your company is a member of the American Standards Association, it is entitled to receive membership service copies of these newly published American Standards. The ASA contact in your company receives a bimonthy announcement of new American Standards, which also serves as an order form. Find out who your ASA contact is and order your American Standards through him. He will make sure your company receives the service to which it is entitled.

Just Published...

ELECTRIC AND ELECTRONIC

4-Watt T-5 Preheat-Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.400-1959 (Revision of C78.400-1951) $0.35
Dimensional and electrical characteristics of subject fluorescent lamp, for purposes of interchangeability.
Sponsor: Electrical Standards Board

GAS-BURNING APPLIANCES

Hotel and Restaurant Gas Ranges and Unit Broilers, Z21.3b-1959 (Addenda to Z21.3-1956, Z21.3a-1957) $0.50
Test methods and minimum requirements to ensure safe operation, durable construction, and acceptable performance of hotel and restaurant gas ranges and units, for use with natural gas, manufactured, and mixed gases; for use with liquefied petroleum gases; or for use with LP gas-air mixtures.

Domestic Gas Hot Plates and Laundry Stoves, Z21.9-1959 (Revision of Z21.9-1948, Z21.9a-1949) $2.00
Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction and acceptable performance for domestic hot plates and laundry stoves for use with natural, manufactured, and mixed gases; or for use with LP gas-air mixtures.

Gas-Fired Room Heaters, Z21.11-1959 (Revision of Z21.11-1956, Z21.11a-1957, Z21.11b-1958) $2.00
Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction and acceptable performance for room heaters for use with natural, manufactured, and mixed gases, for use with liquefied petroleum gases; or for use with LP gas-air mixtures.

Central Heating Gas Appliances, Volume II, Gravity and Forced Air Central Furnaces, Z21.13.2a-1959 (Addenda to Z21.13.2-1958) $0.50

Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction and acceptable performance for central furnaces for use with natural, manufactured, and mixed gases; for use with liquefied petroleum gases; or for use with LP gas-air mixtures.

Portable Gas Baking and Roasting Ovens, Z21.28b-1959 (Addenda to Z21.28-1956, Z21.28a-1957) $0.50

Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction, and acceptable performance for portable baking and roasting ovens that are manufactured, shipped, and can be moved from place to place as a unit for use with natural, manufactured, and mixed gases; for use with liquefied petroleum gases; or for use with LP gas-air mixtures.

Gas Counter Appliances, Z21.31b-1959 (Addenda to Z21.31-1956, Z21.31a-1957) $0.50

Minimum limiting construction and performance requirements and test methods to ensure safe operation, durable construction, and acceptable performance for counter appliances (coffee brewers and any appurtenant water-heating equipment; food and dish warmers; hot water immersion sterilizers; hot plates and griddles; and waffle bakers) for use with natural, manufactured, and mixed gases; for use with liquefied petroleum gases; or for use with LP gas-air mixtures.

Sponsor: American Gas Association

MATERIALS HANDLING

Shipping Cases for Petroleum Containers, Dimensions for, MH7.1-1959 $0.35

Internal dimensions and tolerances of fiberboard boxes used in the shipment of motor oil cans made in accordance with the MH3 (formerly B64) series of American Standards.

Sponsor: Petroleum Packaging Committee of the Packaging Institute

MECHANICAL

Rotating Air Cylinders and Adapters, B5.5-1959 (Revision of B5.5-1954) $1.00

Dimensions and pull and stress data (calculated at 100 pounds per square inch) of rotating air cylinders affecting their interchangeability on lathes. Dimensions of adapters are also given.

Sponsors: American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers; American Society of Mechanical Engineers

OFFICE EQUIPMENT AND PROCEDURES

Method of Charting Paperwork Procedures, X2.3.4-1959 $0.35

Covers terms and symbols used in charting flow of paperwork in an office and general rules to follow in laying out office paperwork procedures.

Remote Dictation Through an Intercommunication Switching System, Minimum Requirements for, X2.5.21-1959 $0.35

Establishes the essential functions and electrical requirements of a dictation machine installation where an intercommunication system is employed.

PHOTOGRAPHY

35-Millimeter Film Magazines and Film for Still Picture Cameras, PH1.14-1959 (Revision and combination of PH1.14-1953 and Z38.1.49-1951) $0.35

Covers the dimensions for daylight loading film magazines for use in still picture cameras and two standard film lengths normally supplied in these magazines. The film lengths provide a maximum number of thirty-six or twenty 24- x 36-mm exposures.

Sponsor: Photographic Standards Board

SAFETY

Safety Code for the Prevention of Dust Explosions in Wood Flour Manufacturing Establishments, NFPA No. 662; ASA Z12.8-1959 (Revision of Z12.8-1946) $0.35

Prevention of dust explosions in the manufacture of wood flour, particularly the hazards of its ignition and the propagation of a resultant fire. Covers the construction and arrangement of buildings and equipment, ventilation and dust.

Safety Code for the Prevention of Dust Ignitions in Spice Grinding Plants, NFPA No. 656; ASA Z12.9-1959 (Revision of Z12.9-1953) $0.40

Prevention of dust explosions in the manufacture of ground or pulverized spices. Covers the construction and arrangement of buildings and equipment, and the control of sources of ignition.

Safety Code for the Prevention of Dust Explosions in the Manufacture of Aluminum Bronze Powder, NFPA No. 651; ASA Z12.11-1959 (Revision of Z12.11-1953) $0.50

Prevention of the ignition and explosion hazards inherent in the manufacture of flake-like aluminum powder (aluminum bronze powder) or the dust of any alloy of aluminum that is explosive in air. Covers the construction and arrangement of buildings, construction, electrical grounding, and relief venting of dust-making machines and conveyors, and fire fighting methods to prevent explosions.

Safety Code for the Prevention of Sulfur Fires and Explosions, NFPA No. 655; ASA Z12.12-1959 (Revision of Z12.12-1950) $0.50

Prevention of the hazard of explosion and fire inherent in the processing of sulfur in industry. Applies particularly to crushing, grinding, and pulverizing. It does not apply to mining of sulfur or transportation by common carrier. Includes precautions in the handling of liquid sulfur and sulfur vapor. Includes construction, arrangement, and ventilation of buildings and equipment.

Safety Code for the Prevention of Dust Ignitions in Country Grain Elevators, NFPA No. 64; ASA Z12.13-1959 (Revision of Z12.13-1956) $0.40

Prevention of explosion and fire hazards in country grain elevators with a total storage capacity of less than 125,000 bushels. Covers the construction of building and equipment, including grain dryers, and the removal and control of dust.

Safety Code for Explosion and Fire Protection in Plants Producing or Handling Magnesium Powder or Dust, NFPA No. 652; ASA Z12.15-1959 (Revision of Z12.15-1953) $0.40

Prevention of fire and explosions in plants producing or handling magnesium powder. Covers the construction and arrangement of buildings, manufacturing processes, fire protection, and safety precautions.

Safety Code for the Prevention of Dust Explosions in the Plastics Industry, NFPA No. 654; ASA Z12.16-1959 (Revision of Z12.16-1946) $0.50

Prevention of dust explosions in the plastics industry. Covers the construction and arrangement of buildings and equipment, and explosion venting of equipment. Includes tables of relative explosion hazards of powders used in the plastics industry, and the permissible percentage of oxygen in atmosphere to prevent explosion of such powders.

Safety Code for the Prevention of Dust Explosions in Confectionery Manufacturing Plants, NFPA No. 657; ASA Z12.18-1959 (Revision of Z12.18-1953) $0.40

Prevention of dust explosions in confectionery manufacturing plants, particularly in the operations of panning, lozenge making, sugar, cocoa, and other pulverizing, dispensing, molding, and drying. Covers the construction and arrangement of buildings and equipment, control and removal of suspended dust, and provisions for explosion venting.

Safety Code for Processing and Finishing of Aluminum, NFPA No. 65; ASA Z12.19-1959 $0.40

Prevention of fire and explosions in industries where aluminum and aluminum alloys are processed or finished, such as grinding, buffing and polishing. Covers the collection and disposal of dust, elimination of ignition sources, and fire extinguishing equipment. Also covers the handling and storage of aluminum powder.

Sponsor: National Fire Protection Association

AMERICAN STANDARDS

In Process...

As of December 18, 1959

ACOUSTICS, VIBRATION, AND MECHANICAL SHOCK

American Standard Approved

Calibration of Shock and Vibration Pick-ups, Methods for, S2.2-1959

Sponsors: Acoustical Society of America; American Society of Mechanical Engineers

In Standards Board

Preferred Frequencies for Acoustical Measurements, S1.6-

Sponsor: Acoustical Society of America

AUTOMOTIVE

American Standard Approved

Specific Gravity of Concentrated Engine Antifreezes by the Hydrometer, Method of Test for, ASTM D 1122-58; ASA D14.3-1959 (Revision of ASTM D 1122-53; ASA D14.3-1955)

Sponsor: American Society for Testing Materials

BUILDING AND CONSTRUCTION

American Standards Approved

Fireclay and High-Alumina Refractory Brick, Classification of, ASTM C 27-58T; ASA A111.5-1959 (Revision of ASTM C 27-41; ASA A111.5-1956)

Basic Procedure in Panel Spalling Test for Refractory Brick, Method for, ASTM C 38-58; ASA A111.6-1959 (Revision of ASTM C 38-52; ASA A111.6-1955)

Sponsor: American Society for Testing Materials

Dry-Set Portland Cement Mortar, Specification for, A118.1-1959

Sponsor: Tile Council of America

CHEMICAL

American Standards Approved

Turpentine, Methods of Sampling and Testing, ASTM D 233-58; ASA K33.1-1959 (Revision of ASTM D 233-36; ASA K33-1937)

Sponsor: American Society for Testing Materials

Alkaline Detergents, Methods of Sampling and Chemical Analysis of, ASTM D 501-58; ASA K60.21-1959 (Revision of ASTM D 501-57; ASA K60.21-1958)

Sponsor: American Society for Testing Materials

DRAWINGS, SYMBOLS AND ABBREVIATIONS

In Standards Board

Letter Symbols for Feedback Control Systems, Y10.13-

Sponsor: American Society of Mechanical Engineers

Time Series Charts, Y15.2- [Revision of Z15.2-1938 (R1947)]

Sponsor: American Society of Mechanical Engineers

ELECTRIC AND ELECTRONIC

American Standard Approved

Outlet Receptacles, Attachment Plug Caps, and Appliance Plugs, C73.1a-1959 (Supplement to C73.1-1957)

Sponsor: National Electrical Manufacturers Association

In Board of Review

Code for Protection Against Lightning, Part I, Protection of Persons, C5.1-
Part II, Protection of Buildings and Miscellaneous Property, C5.2-
Part III, Protection of Structures Containing Flammable Liquids and Gases, C5.3- (Revision of C5.1-1953; C5.2-1953; C5.3-1953)

Sponsors: National Fire Protection Association; National Bureau of Standards; American Institute of Electrical Engineers

Industrial Control Apparatus, C19.1- (Revision of C19.1-1943)

Sponsors: American Institute of Electrical Engineers; National Electrical Manufacturers Association

72-Inch (800 and 1000 Milliampere) T-12 Rapid-Start Fluorescent Lamps, Dimensional and Electrical Characteristics of, C78.701- (Consolidation and revision of C78.701-1956 and C78.703-1958, 2nd edition)

96-Inch (800 Milliampere) T-12 Rapid-Start Fluorescent Lamps, Dimensional and Electrical Characteristics of, C78.702- (Revision of C78.702-1958, 2nd edition)

96-Inch (1.5 Ampere) T-12 and PG-17 Rapid-Start Fluorescent Lamps, Dimensional and Electrical Characteristics of, C78.707-

Sponsor: Electrical Standards Board

In Standards Board

Electrical Insulating Oils, Methods of Testing, ASTM D 117-58; ASA C59.2-(Revision of ASTM D 117-54T; ASA C59.2-1955)

Sheet and Plate Materials Used for Electrical Insulation, Methods of Testing, ASTM D 229-58; ASA C59.13- (Revision of ASTM D 229-49; ASA C59.13-1951)

Power Factor and Dielectric Constant of Electrical Insulating Oils of Petroleum Origin, Methods of Test for, ASTM D 924-58; ASA C59.22- (Revision of ASTM D 924-49; ASA C59.22-1951)

Plastics and Electrical Insulating Materials for Testing, Methods of Conditioning, ASTM D 618-58; ASA C59.28- (Revision of ASTM D 618-54; ASA C59.28-1955)

Sponsor: American Society for Testing Materials

Methods for the Determination of the Elastic, Piezoelectric, and Dielectric Constants — The Electromechanical Coupling Factor of Piezoelectric Crystals, 58 IRE 14.S1; ASA C83.23-

Sponsor: Electronic Industries Association

MECHANICAL

In Board of Review

Ball and Roller Bearings, Identification Code for, B54.1-

Sponsor: Anti-Friction Bearing Manufacturers Association

In Standards Board

Milling Cutters, and Nomenclature for Milling Cutter Teeth, B5.3- (Revision and unification of B5.3-1950 and B5cl-1947)

Spindle Noses for Tool Room Lathes, Engine Lathes, Turret Lathes, and Automatic Lathes, B5.9- (Revision of B5.9-1954)

Sponsors: American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers; American Society of Mechanical Engineers

Standard Submitted

Machine Tapers, B5.10- (Revision of B5.10-1953)

Sponsors: American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers; American Society of Mechanical Engineers

Reaffirmation Being Considered

Round Head Bolts, B18.5-1952

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

Withdrawal Being Considered

Screw Threads for High-Strength Bolting, B1.4-1945

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

METALLIC COATINGS

American Standards Approved

Electrodeposited Coatings of Nickel and and Chromium on Steel, Specifications for, ASTM A 166-58T; ASA G53.3-1959 (Revision of ASTM A 166-55T; ASA G53.3-1956)

Electrodeposited Coatings of Nickel and Chromium on Copper and Copper-Base Alloys, Specifications for, ASTM B 141-58; ASA G53.4-1959 (Revision of ASTM B 141-55; ASA G53.4-1956)

Electrodeposited Coatings of Nickel and Chromium on Zinc and Zinc-Base Alloys, Specifications for, ASTM B 142-58; ASA G53.5-1959 (Revision of ASTM B 142-55; ASA G53.5-1956)

Sponsor: American Society for Testing Materials

METALLURGY

American Standards Approved

Zinc-Coated (Galvanized) Iron or Steel Sheets, Coils, and Cut Lengths, Specifications for, ASTM A 93-58T; ASA G8.2-1959 (Revision of ASTM A 93-55T; ASA G8.2-1956)

Sponsor: American Society for Testing Materials

Slab Zinc (Spelter), Specifications for, ASTM B 6-58; ASA H24.1-1959 (Revision of ASTM B 6-49; ASA H24.1-1949)

Sponsor: American Society for Testing Materials

MISCELLANEOUS

American Standard Approved

ASTM Thermometers, Specifications for, ASTM E 1-58; ASA Z71.1-1959 (Revision of ASTM E 1-57; ASA Z71.1-1958)

Sponsor: American Society for Testing Materials

PETROLEUM PRODUCTS AND LUBRICANTS

In Standards Board

Method of Test for Water and Sediment by Centrifuge, ASTM D 96-59T; ASA Z11.8- (Revision of ASTM D 96-48; ASA Z11.8-1948)

Distillation of Petroleum Products, Method of Test for, ASTM D 86-59; ASA Z11.10- (Revision of ASTM D 86-56; ASA Z11.10-1956)

Method of Test for Sulfur in Petroleum Products and Lubricants by the Bomb Method, ASTM D 129-58; ASA Z11.13- (Revision of ASTM D 129-52; ASA Z11.13-1952)

Lubricating Grease, Methods of Analysis, ASTM D 128-59; ASA Z11.16- (Revision of ASTM D 128-47; ASA Z11.16-1948)

Distillation of Gas Oil and Similar Distillate Fuel Oils, Method of Test for, ASTM D 158-59; ASA Z11.26- (Revision of ASTM D 158-58; ASA Z11.26-1955)

Dilution of Gasoline Engine Crankcase Oils, Method of Test for, ASTM D 322-58T; ASA Z11.29- [Revision of ASTM D 322-35; ASA Z11.29-1935 (R1953)]

Method of Test for Knock Characteristics of Motor Fuels by the Motor Method, ASTM D 357-59; ASA Z11.37- (Revision of ASTM D 357-58; ASA Z11.37-1958)

Distillation of Plant Spray Oils, Method of Test for, ASTM D 447-59T; ASA Z11.43- (Revision of ASTM D 447-57T; ASA Z11.43-1957)

Ramsbottom Carbon Residue of Petroleum Products, Method of Test for, ASTM D 524-59; ASA Z11.47- (Revision of ASTM D 524-58T; ASA Z11.47-1958)

Ash from Petroleum Oils, Method of Test for, ASTM D 482-59T; ASA Z11.54- (Revision of ASTM D 482-46; ASA Z11.54-1947)

Sulfated Residue, Lead, Iron, and Copper in New and Used Lubricating Oils, Methods of Test for, ASTM D 810-59; ASA Z11.57- (Revision of ASTM D 810-48; ASA Z11.57-1949)

Sediment in Fuel Oil by Extraction, Method of Test for, ASTM D 473-59; ASA Z11.58- (Revision of ASTM D 473-48; ASA Z11.58-1949)

Butadiene Content of Polymerization Grade Butadiene and Butadiene Concentrate, Method of Test for, ASTM D 973-59; ASA Z11.66- (Revision of ASTM D 973-50; ASA Z11.66-1950)

Sulfated Ash from New Lubricating Oils, Method of Test for, ASTM D 874-59T; ASA Z11.68- (Revision of ASTM D 874-57T; ASA Z11.68-1957)

Method of Test for Knock Characteristics of Motor Fuels by the Research Method, ASTM D 908-59; ASA Z11.69- (Revision of ASTM D 908-58; ASA Z11.69-1958)

Acetylenes in Butadiene, Method of Test for, (Silver Nitrate Method), ASTM D 1020-59; ASA Z11.74- (Revision of ASTM D 1020-52; ASA Z11.74-1952)

Butadiene Dimer in Styrene Butadiene Concentrates, Method of Test for, ASTM D 1024-59; ASA Z11.79- (Revision of ASTM D 1024-53; ASA Z11.79-1953)

Carbonyl Content of Butadiene, Method of Test for, ASTM D 1089-59; ASA Z11.81- (Revision of ASTM D 1089-53; ASA Z11.81-1953)

Oil-Soluble Sodium Petroleum Sulfonates, Method of Analysis, ASTM D 855-56; ASA Z11.100-

Total Inhibitor Content (p-Tertiary-Butyl-Catechol) of Butadiene, Method of Test for, ASTM D 1157-59; ASA Z11.102-

Calcium and Barium Petroleum Sulfonates, Method of Analysis, ASTM D 1216-56; ASA Z11.103-

Effect of Grease on Copper, Method of Test for, ASTM D 1261-55; ASA Z11.104-

Mercaptan Sulfur in Jet Fuels, Method of Test for, (Amperometric Method), ASTM D 1323-56; ASA Z11.105-

Lead in New and Used Greases, Method of Test for, ASTM D 1262-55; ASA Z11.106-

Sponsor: American Society for Testing Materials

PHOTOGRAPHY

American Standard Approved

Photographic Chemical Scales, Specifications for, PH4.27-1959 (Partial revision of Z38.8.9-1946)

Sponsor: Photographic Standards Board

In Board of Review

Threaded Lens Mounts for 16mm and 8mm Motion Picture Cameras, PH22.76- (Revision of PH22.76-1951)

Sponsor: Society of Motion Picture and Television Engineers

PIPE AND FITTINGS

American Standards Approved

Nickel Seamless Pipe and Tube, Specification for, ASTM B 161-58T; ASA H34.1-1959 (Revision of ASTM B 161-49T; ASA H34.1-1955)

Nickel-Copper Alloy Seamless Pipe and Tube, Specification for, ASTM B 165-58T; ASA H34.2-1959 (Revision of ASTM B 165-49T; ASA H34.2-1955)

Nickel-Chromium-Iron Alloy Seamless Pipe and Tube, Specification for, ASTM B 167-58T; ASA H34.3-1959 (Revision of ASTM B 167-49T; ASA H34.3-1955)

Sponsor: American Society for Testing Materials

In Board of Review

Wrought-Steel and Wrought-Iron Pipe, B36.10- (Revision of B36.10-1950)

Sponsors: American Society for Testing Materials; American Society of Mechanical Engineers

In Standards Board

Cast Bronze Solder-Joint Drainage Fittings, B16.23- (Revision of B16.23-1955)

Sponsors: American Society of Mechanical Engineers; Mechanical Contractors of America, Inc; Manufacturers Standardization Society of the Valve and Fittings Industry

RUBBER

American Standard Approved

Sample Preparation for Physical Testing of Rubber Products, Methods of, ASTM D 15-58T; ASA J1.1-1959 (Revision of ASTM D 15-57T; ASA J1.1-1958)

Sponsor: American Society for Testing Materials

SAFETY

American Standards Approved

Safety Code for Window Cleaning, A39.1-1959 (Revision of A39-1933)

Sponsor: National Safety Council

Safety Code for Head, Eye, and Respiratory Protection, Z2.1-1959 (Revision of Z2-1938)

Sponsors: National Bureau of Standards; U.S. Department of the Navy; U.S. Bureau of Mines

In Board of Review

Industrial Accident Prevention Signs, Specifications for, Z35.1- (Revision of Z35.1-1941)

Sponsor: National Safety Council

In Standards Board

Power Presses, Safety Code for, B11.1- (Revision of B11.1-1948)

Sponsor: National Safety Council

NEWS ABOUT AMERICAN STANDARDS PROJECTS

Safety in the Construction Industry, A10—

Sponsors: American Institute of Architects; National Safety Council

The scope of this project has been enlarged to read: "Standards relating to accident hazards to employees and to the public arising out of the construction, demolition, and repair of buildings, highway construction and heavy construction; including excavations, blasting, foundation work, work in compressed air, steel erection, scaffolding, lighting, openings, temporary floors and stairs, tunnels, marine construction, pile driving, and the transportation of employees, both vertically and horizontally, on the job."

Work on revision of the American Standard Safety Code for Building Construction, A10.2-1944, is going forward. Subcommittees have been appointed to process all the subjects included in the new scope.

Since the work of Sectional Committee A10 now includes safety in the use of compressed air, Project Z28, Work in Compressed Air, has been withdrawn by ASA.

School Lighting, A23—

Sponsors: American Institute of Architects; Illuminating Engineering Society

A task group is well along in its work on a revision of American Standard A23.1-1948, the sponsors report. The revision will take into account the latest research on the quantity of illumination desirable for school tasks and the quality of lighting necessary for comfortable and efficient seeing.

Safety Code for Parking Garage Equipment, A113—

Sponsor: American Society of Mechanical Engineers

Four subcommittees have been set up by this sectional committee with the purpose of writing a safety code for mechanized parking garages. Subcommittee (a) is working on vertical travel; Subcommittee (b) is working on horizontal travel and dollies; and Subcommittee (c) is working on control. A correlating committee has responsibility for reviewing the rules under which the three operating subcommittees are working, and is itself working on definitions. The subcommittees hope to complete their assignments in 1960.

Code for Pressure Piping, B31—

Sponsor: American Society of Mechanical Engineers

Interpretation submitted by the sponsor.

From time to time actions taken by Sectional Committee B31 are published for the information of all who are interested in use of the American Standard Code for Pressure Piping, B31.1-1955. While these actions do not constitute formal revision of the Code, they may be utilized in specifications, or otherwise, as representing the considered opinion of the committee.

Pending revision of the Code for Pressure Piping, the Sectional Committee has recommended that ASME, as sponsor, publish selected interpretations so that industry may take immediate advantage of corresponding proposed revisions. Case No. 42 is published herewith as an interim action of Committee B31 that will not constitute a part of the Code until formal action has been taken by ASME and by the American Standards Association on a revision of the Code.

CASE NO. 42

Inquiry: What is the intent of Section 8 of the Code for Pressure Piping on the requirements for reinforcement of extruded headers?

Reply: It is the opinion of the committee that the principles of reinforcement as stated in Par. 831.41 apply to contoured extruded outlets. The definition of dimensions given in this paragraph, and as illustrated in Fig. 831.A, are applicable to conventional welded branch connections. Until such time as the rules are revised dimension L may be taken as $2\frac{1}{2}H$, and d may be taken as the minimum bore of the outlet.

The committee wishes to advise that this opinion is rendered as an interim measure and does not set a precedent since the committee is awaiting the conclusion of extensive research work now in progress and intends to revise the rules for reinforcement to reflect the findings of this work.

Photographic Sensitometry, PH2—

Sponsor: Photographic Standards Board

Subcommittee PH2-18, representing manufacturers of cameras, films, and exposure meters as well as finishers and users, has recommended a far-reaching change in the method of determining photographic speed and exposure index. If approved and put into general use, as members of the committee expect it will be, it will eventually eliminate the use of the well-known "*f*" numbers, they say. The subcommittee's recommendation is contained in a revision of American Standard Method for Determining Photographic Speed and Exposure Index, PH2.5-1954. This is the standard on which the "ASA" exposure index is based. It provides a safety factor which professional photographers and many knowledgeable amateurs claim is out of date in view of rapid developments in the art and techniques of photography.

As a result of the subcommittee's work, the revised edition, entitled Proposed American Standard Method for Determining Speed of Photographic Negative Materials(Monochrome-Continuous Tone) is being submitted to Sectional Committee PH2 for letter ballot vote. Members of the committee believe it will be approved by the committee and submitted to ASA for approval as American Standard within the next month.

M. G. Anderson, Ansco, chairman of Sectional Committee PH2, states that the three most important changes in the proposed new standard are: (1) Reduction of the safety factor from about 2.5 to about 1.2—the same as for color film. This means that a black and white film rated ASA 50 at present will be rated ASA 100. (There will be no change in the color film ratings.) (2) New methods of determining sensitivity of photographic negative materials. (3) A new logarithmic scale for expressing film speed using whole numbers covering approximately the range from 0 to 11.

This logarithmic unit system has already been employed in two other new American Standards—American Standard Aperture Markings for Still Cameras, PH3.33-1959, and American Standard Exposure-Time Markings for Shutters Used in Still Cameras, PH3.32-1959.

The ultimate aim is that all photographic values will be expressed by this new unit value system—apertures (doing away with *f* numbers); exposure times (doing away with fractions of seconds); film speed; and scene brightness. It will then be possible to use a simple formula for setting the camera aperture and shutter. The unit values for film speed and scene brightness added together would always equal the sum of the values for aperture and shutter time.

John L. Tupper, research laboratories, Eastman Kodak Company, chairman of the subcommittee, described the new development at an ASA press conference held on December 11, 1959. He stated that all groups concerned in this country are in complete agreement as to what the standard should be. If put into effect in the U.S., it may become the framework for development of an international standard, he said.

One reason for proposing the change at this time is a growing desire on the international level to achieve a uniform system of speed designation. In 1958, at a meeting of ISO/TC 42, Photography, a working group was established to undertake the development of an international standard for determining speed, of which Mr Tupper is chairman.

Acoustics, S1—

Sponsor: Acoustical Society of America

A revision of the American Standard Acoustical Terminology, Z24.1-1951, to be known as S1.1, has been completed and cleared with Sectional Committee S3. As soon as it is cleared by Sectional Committee S2 it will be transmitted to the sponsor for submittal to the American Standards Association. Committee S1 has also completed the proposed American Standard Preferred Frequencies for Acoustical Measurements, S1.6, which has been transmitted to the sponsor with the unanimous recommendations of the S1, S2, and S3 committees. These actions were reported at a meeting of the committee October 22.

The subcommittee working on a proposed American Standard Method for the Physical Measurement of Sound, S1.2, a revision of American Standard Z24.7-1950, has been delayed in completing its work because letter ballot of the sectional committee disclosed that one of the committee members believes a semi-reverberant room does not lend itself to standardization. However, it was pointed out, reference has already been made to the proposed standard by a committee of the American Institute of Electrical Engineers and also by the National Electrical Manufacturers Association. It was therefore decided at the October meeting to send the new draft to letter ballot of the entire sectional committee.

Because broad differences in attitude toward standards for tuning musical instruments have been found both in this country and abroad, the exploratory group set up to study the need for work on tolerances for tuning has recommended a new approach to the problem. The question of further standardization in musical instrument tuning is being deferred and a technical subcommittee of the Acoustical Society of America is being set up to prepare a summary report on frequency-related musical matters such as tuning, scales, pitch, and intonation. When this is finished, the possibility of standardization will again be studied.

A Writing Project entitled Measurement of Sound Attenuation of Devices in Ducts, S1-W-42, has been set up on recommendation of an exploratory subcommittee.

The next meeting of Sectional Committee S1 will be held during the spring meeting of the Acoustical Society of America, Providence, R.I., June 9 to 11, 1960.

Mechanical Shock and Vibration, S2—

Sponsors: Acoustical Society of America; American Society of Mechanical Engineers

Proposed American Standard Specifications for the Performance of Vibration Testing Machines are being circulated for letter ballot vote by the sectional committee.

At its meeting December 1, 1959, the committee voted to transmit the proposed American Standard Method for Specifying the Characteristics of Auxiliary Equipment for Shock and Vibration Measurements, S2.4, to the sponsors for submittal to ASA.

Reports from writing groups showed that a number of draft standards are being prepared. Among these are: proposed balancing terms; quantities required to measure unbalance forces and measurement of these quantities; summary of available techniques for the measurement of torsional vibration on rotating machinery; elements which characterize the machinery vibration problem; mechanical impedance of structures; and resilient mountings.

Plans are being made to prepare a draft covering "broad band" measurement of machinery vibration along lines of the American Standard for airborne noise measurements.

The first meeting of a working group on shock and vibration measurement, of the International Electrotechnical Commission's Technical Committee 29, will be held in Rapallo, Italy, in April 1960, it was announced. Three documents have been submitted by the U.S. for discussion. Two of these are similar to American Standards on methods for specifying the characteristics of pickups for shock and vibration measurements and methods for specifying the characteristics of auxiliary equipment for shock and vibration measurements. The purpose of these two standards is to guide the instrument manufacturers in indicating the characteristics of their vibration and shock pickups.

The third document deals with the specifications for a pickup for a bump testing machine.

Library Work and Documentation, Z39—

Sponsor: Council of National Library Associations

At the request of Committee Z39, the sponsor has asked the American Standards Association to change the scope of the committee's work in order to assign responsibility for standards for library equipment and supplies to a new sectional committee. The new committee would include representatives of the manufacturers as well as users of the equipment involved.

A Library Technology Project of the American Library Association is planning work on standards for equipment and supplies. Frazer G. Poole, director of the project, has been elected a member-at-large by Committee Z39.

Following an all-day meeting of Sectional Committee Z39 on November 20, Miss Mandalay Grems, data systems division, IBM, has been named chairman of the Subcommittee on Machine Coding and Indexing. Miss Grems represents the Association of Computing Machinery.

A standard on rebinding submitted by the Library Binding Institute was approved by the committee at the meeting. The standard is being submitted to ASA for approval as American Standard.

The Subcommittee on Abbreviations for Periodicals plans to present a set of rules for future work to Sectional Committee Z39, James Wood, American Chemical Society, chairman, reported.

A comprehensive survey to determine whether the American Standard Reference Data and Arrangement of Periodicals, Z39.1-1943 (Reaffirmed 1959), should be revised was reported by Ivan Given, editor of *Coal Age*. Mr Given is chairman of the Subcommittee on Reference Data for Periodicals. The report will be studied by the committee and discussed at its next meeting.

A first meeting has been held by the Subcommittee on Library Statistics, reported Miss Marion E. Bonniwell, U.S. Navy Department, Bureau of Ships, co-chairman. Henry J. Dubester, Library of Congress, is co-chairman with Miss Bonniwell. Mr Dubester is also chairman of the subcommittees on bookbinding and on financing.

Reports were also received from the subcommittees on terminology, Jerrold Orne, University of North Carolina, chairman; transliteration, C. Sumner Spalding, Library of Congress, chairman; proof corrections, Karl Brown, chairman; and abstracts and synopses, Miss Anne McCann, Squibb Institute for Medical Research, chairman. Miss McCann reported that her subcommittee plans to develop a standard that will differ somewhat from the international recommendation now under way.

Robert E. Kingery, chief of the Preparations Division, New York Public Library, is chairman of Sectional Committee Z39. Mrs Anne Richter, R.R. Bowker Company, is vice-chairman; and Harold Oatfield, Charles Pfizer & Company, is secretary-treasurer.

The next meeting will be May 6.

Does Industry Need a National Standards Agency?

DINNSA

by CYRIL AINSWORTH

Continued from page 383, December 1959.

THE DECIMAL-INCH SYSTEM had been employed in automotive design and manufacture since the early 1930's. As its use increased in other fields, slight differences in requirements tended to create many special scales. This proved costly to manufacturer and user alike. A special conference convened by the automotive industry requested ASA to circulate a proposed standard, which the conference had developed, to industrial and technical groups for comment. It also requested ASA to call a general conference to consider the comments. The General Acceptance Method was used and the procedure outlined above was followed. An American Standard was again produced in two sessions of the general conference.

The case just cited, and the two outlined in this column in the December 1959 issue, clearly indicate the effectiveness of the General Acceptance Method. The same fundamental principles that control the Sectional Committee Method and the Existing Standards Method are applied in the operation of the General Acceptance Method. All groups substantially concerned have the right to participate in the conference; they must have equal opportunity to present their points of view; and the recommendations of the conference must be supported by written evidence of acceptance to show the national consensus necessary for approval as American Standard.

To complete this discussion of the methods for development and approval of standards set forth in ASA procedure, it is necessary to call attention to an additional method that is used only for the revision of standards. It is called the Proprietary Method. This method is in essence the Existing Standards Method. It is, therefore, unnecessary to outline in detail its operation.

If a national organization has mechanisms or procedures that can obtain such a degree of acceptance by all the national groups concerned as to indicate the national consensus necessary for approval as American Standard, it should be permitted to revise the American Standard under the same procedures that were used for its original development. This was the opinion of the ASA member-bodies in establishing the Proprietary Method. The fact that the Proprietary Method has been used for the revision of several hundred American Standards indicates its value.

Revisions of American Standards under this method are required to be promptly submitted to ASA for approval in order that ASA action may coincide as closely as practical with their adoption by the developing organization. If revisions of American Standards are adopted and promulgated by the proprietary sponsor without notice to ASA, ASA's original approval of the standard is automatically cancelled.

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